

SCIENCE DIPLOMACY ACTION

An Incidental Serial for Rigorous Meeting Syntheses

January 2019



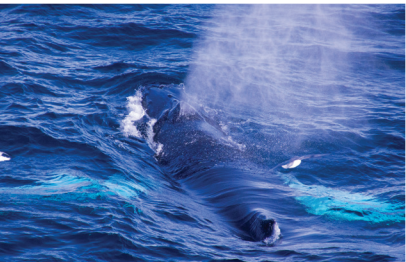
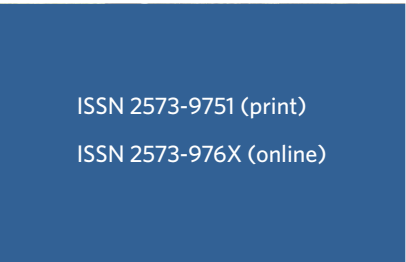
Supporting Implementation of the Arctic Science Agreement

Arctic Science Agreement Dialogue Panel



The Fletcher School • Tufts University





ABOUT THE SERIAL

This incidental serial will share rigorous syntheses of meetings that relate to science diplomacy. The spirit of this serial is to be holistic (international, interdisciplinary and inclusive) in a manner that will be helpful to the future of our globally-interconnected civilization.

This serial is intended to integrate stakeholder perspectives, holistic evidence and governance records in a manner that reveals options (without advocacy), which can be used or ignored, with the goal of contributing to informed decision-making in our world.

Informed decisions are at the summit, overlying options and evidence. The evidence itself is distilled from data, with observations and information integrated from questions at the earliest stage possible for stakeholder engagement, which is the reason for the meetings in the first instance.

The decisions relate to the combination of fixed, mobile, and other built assets (including communications, research, observing and information systems) that require capitalization and technology PLUS regulatory, policy, legal, official-statement and other governance mechanisms (including insurance). Behind the decisions is the science, as the study of change, including natural and social sciences as well as indigenous knowledge. Change itself reveals patterns and trends over time and space – to anticipate as well as respond to issues, impacts and resources – across generations within, over and beyond the boundaries of nations.

Science Diplomacy Action addresses an immediate and long-term need to publish rigorous syntheses and summaries of meetings associated with science and technology advice in government at all levels, especially among the foreign ministries of nations. This need is reflected by the rapidly growing number of meetings that focus on science diplomacy as a holistic process of evidence integration to balance national interests and common interests for the benefit of all on Earth. The value of these science-diplomacy meetings (or any meetings) is largely limited to those that attend. *Science Diplomacy Action* recognizes this unrealized opportunity to extend value beyond the meetings by soliciting and publishing rigorous meeting syntheses.



Science Diplomacy Center

The Fletcher School • Tufts University

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An Incidental Serial for Rigorous Meeting Syntheses

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(January 31, 2018)

Supporting Implementation of the Arctic Science Agreement

Arctic Science Agreement Dialogue Panel^{#1}

[#]This is a compilation of unedited written remarks from presenters and co-authors that were read as brief opening interventions at the 2018 Arctic Circle Assembly panel dialogue in Reykjavik, Iceland, on 19 October 2018 about “*Supporting Implementation of the Arctic Science Agreement*”

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¹ All views expressed are personal and do not reflect the views of any organisation, agency or government.

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AGENDA

Supporting the Implementation of the Arctic Science Agreement

FRIDAY, 19 OCTOBER 2018

15:30–17:00 / Esja, Harpa, Fifth Level

Organized by the University of the Arctic (UArctic); the International Arctic Social Sciences Association (IASSA); and the Science Diplomacy Center at Tufts University

CHAIR: [PAUL ARTHUR BERKMAN](#), Director, Science Diplomacy Center, Tufts University

SPEAKERS:

- [RENÉ SÖDERMAN](#), Ambassador, Senior Arctic Official, Finland: *The Arctic Science Agreement – A View from Finland*
- [HANNE ESKJÆR](#), Senior Arctic Official for the Kingdom of Denmark: *Perspectives from the Depository Government of the Arctic Science Agreement*
- [ANDREY N. PETROV](#), President, IASSA: *Characteristics, Activities and Needs of IASSA with Regard to the Arctic Science Agreement*
- [KIRSI LATOLA](#), Director, Thematic Networks, University of the Arctic; Chair, European Polar Board; Research Coordinator, Thule Institute, University of Oulu, Finland: *Implementation of the Arctic Science Agreement with Science Diplomacy*
- [LARRY HINZMAN](#), President, International Arctic Science Committee; Vice-Chancellor for Research, University of Alaska Fairbanks: *Enhancing International Arctic Scientific Cooperation with the International Arctic Science Committee*
- [KUUPIK KLEIST](#), 5th Prime Minister of Greenland 2009-2013 (with Aka Bendtsen and Metta Jensen, Board Members of the University of Greenland); *Direct and Meaningful Participation in the Implementation of the Arctic Science Agreement – written by SARA OLSVIG, Member of Parliament of Greenland*
- [JOHN FARRELL](#), Executive Director, US Arctic Research Commission: *How the US Government is Implementing the Agreement*
- [VOLKER RACHOLD](#), Head, German Arctic Office; Host of the Arctic Science Ministerial: *Perspectives of a Non-Arctic State with Regard to International Scientific Cooperation*
- [BRYNDIS KJARTANSDÓTTIR](#), Senior Arctic Official of Iceland (unavailable to deliver presentation): Written remarks included from the University of the Arctic (UArctic) Congress in Oulu, Finland, on 5 September 2018 from the session about the Arctic Science Agreement

[hyperlinks with presenters to the written remarks for their opening interventions]

SUPPORTING IMPLEMENTATION OF THE ARCTIC SCIENCE AGREEMENT – INTRODUCTION TO THE PANEL DIALOGUE

Paul Arthur Berkman
Director, Science Diplomacy Center
Fletcher School of Law and Diplomacy, Tufts University

It is an honour and pleasure to chair this session on *Supporting Implementation of the Arctic Science Agreement* at the 2018 Arctic Circle, which continues to mature each year with the vision of Ólafur Ragnar Grímsson, five-term 5th President of Iceland and elder statesman of the Arctic.

Hello my name is Paul Arthur Berkman, Director of the Science Diplomacy Center at the Fletcher School of Law and Diplomacy at Tufts University, co-convening this panel with the University of the Arctic (UArctic) and International Arctic Social Sciences Association (IASSA) – two of the science organizations named in the *Agreement on Enhancing International Arctic Scientific Cooperation* that was signed in Fairbanks, Alaska, on 11 May 2017 by foreign ministers of the eight Arctic States as well as from Greenland and the Faroe Islands.

The Arctic Science Agreement entered into force on 23 May 2018 with the Kingdom of Denmark as the depositary is now the third binding legal agreement among all eight Arctic states since 2011, arising with shared leadership from the United States and Russian Federation as co-chairs of the three preceding task forces. The Arctic Science Agreement recognizes the “*excellent existing scientific cooperation already under way in many organizations*” with the International Arctic Science Committee (IASC) as well as IASSA, UArctic and indigenous knowledge institutions among many others.

However, as suggested in a November 2017 policy forum published in the journal *Science*: “*effective implementation of the agreement will require its associated networks (including IASC, UArctic, IASSA, and partner organizations) to help strengthen research and education across borders.*” Objective of this panel dialogue is to consider how the scientific community can best assist to achieve effective implementation of the Arctic Science Agreement, with strategies such as:

- Creation of a communication network with researchers that would aid government officials with their implementation of the Arctic Science Agreement;
- Application of an information campaign to alert the broader Arctic research community about the Arctic Science Agreement; or
- Development of case studies that might trigger applications of the Arctic Science Agreement, such as with the *Multidisciplinary Drifting Observatory for the Study of Arctic Climate* – MOSAiC – project starting in 2019 with more than 120 M Euros across the international consortium.

This session also builds on earlier dialogues, including with the International Science Initiative in the Russia Arctic (ISIRA) in Moscow (November 2017) and in Davos (June 2018) as well as in the *Ambassadorial Panel on Arctic Science Diplomacy* at the 2018 UArctic Congress last month in Oulu, leading into the 2nd Arctic Science Ministerial next week.

The Arctic Science Agreement has the potential to be international, interdisciplinary and inclusive (aspiring to be holistic), bridging the natural sciences and social sciences as well as indigenous knowledge with their different methodologies, all of which reveal patterns and

trends that are the bases for informed decision-making – integrating questions, data, evidence and options with science as the ‘study of change.’

Importantly, the Arctic Science Agreement reflects a common interest to enhance scientific cooperation even when diplomatic channels among nations are unstable, recognizing first *"the importance of maintaining peace, stability, and constructive cooperation in the Arctic."* Such science diplomacy underlies decisions about governance mechanisms and built infrastructure that require close coupling to achieve progress with sustainable development, which is recognized as a ‘common Arctic issue’ by the eight Arctic states and six Indigenous peoples organizations in the *Ottawa Declaration* that established the Arctic Council in 1996.

Translating the general language of the Arctic Science Agreement into enhanced action, however, requires continuous collaboration among diplomatic and scientific communities. This panel is at the early stages of this journey.

Each of the panellists will provide 3-minute opening remarks with their written versions to be compiled in a publication of *Science Diplomacy Action* as a legacy of this dialogue. Following these opening interventions, there will be interactions among the panellists followed by their exchanges with the audience.

The Arctic Science Agreement is a special step into *Our Common Future* with hope and inspiration across generations. It now gives me great pleasure to introduce the panellists in the order of their presentations.

THE ARCTIC SCIENCE AGREEMENT – A VIEW FROM FINLAND

Remarks by René Söderman, Senior Arctic Official, Finland

- The Arctic Council was established to stop the environmental degradation in the Arctic, to promote sustainable development and to enhance the well-being of the people of the Arctic, including the indigenous peoples. The main tool for achieving this is science and research. Scientists and researchers from all member states and beyond have contributed relentlessly to produce reports, finalize assessments and develop recommendations to fulfil the mandate of the Council. Indigenous people have contributed significantly to the work of the Council with indigenous knowledge dating back for millennia.
- Climate change is the common denominator for most of the scientific work carried out in the Arctic Council. All working groups, expert groups and task forces deal with issues related to climate change. The Arctic Council shares its research findings with the scientific institutions including IPCC. Today we have all the science we need to understand the importance of mitigating climate change, adapting to it and building resilience. We have all the science we need to act.
- The special report on global warming by IPCC confirmed the devastating developments that climate change will bring to the Arctic. Loss of summer sea-ice, acidification of the oceans, decrease of biodiversity, influx of invasive species, changes in weather patterns, global sea level rise. These are only a few examples of the developments we are facing. Where ever we are or where ever we go - climate change will follow us and affect all of us.
- The Arctic Council has been able to foster constructive cooperation between the Arctic States despite tensions in international relations. The economic sanctions and the confrontations taking place outside the Arctic could easily derail Arctic cooperation, but it has not. Arctic cooperation has prevailed and the Arctic Science Agreement is a prime example of this.
- Science has no boundaries. Scientists have always worked together. Science and research are by default international. Even the earliest explorers of the Arctic relied on international cooperation.
- The Arctic Science Agreement is above all a political statement. It is a tool for diplomacy and for promoting common interests in the Arctic and beyond. The agreement recognizes the importance of peace, stability and constructive cooperation in the Arctic and emphasizes the best available knowledge for decision-making. Most importantly, it encourages member states, observer states, research institutes and scientific organizations to continue their important work to increase our understanding of the Arctic. The agreement also recognizes indigenous knowledge institutions and encourages holders of traditional and local knowledge to participate in scientific activities.
- The Arctic Science Agreement is the third legally binding agreement negotiated under the auspices of the Arctic Council. Although the Arctic Council is not a formal organization, these agreements show there is a strong desire and will for the Arctic States to maintain the Arctic as a region of peace, stability and constructive cooperation.

PERSPECTIVES FROM THE DEPOSITORY GOVERNMENT OF THE ARCTIC SCIENCE AGREEMENT

By Hanne Fugl Eskjær, Senior Arctic Official of the Kingdom of Denmark

Research is a tool for creating new knowledge. We believe knowledge must be the foundation for a sound development of the Arctic region. Research helps us to address challenges and tap into new opportunities as they emerge, for the benefit of the Arctic peoples and societies. We know from our experiences and analyses that international cooperation within research projects raises the bar for excellence. That is our primary driver for increased international cooperation – better science for a global common good.

The *Agreement on Enhancing International Arctic Science Cooperation* signed on 11 May 2017 by the Foreign Ministers of the Arctic States, including Greenland and the Faroe Islands, at the Arctic Council Ministerial Meeting, provides a significant step forward for international research cooperation in the Arctic.

The agreement, which entered into force on 23 May 2018, stresses the importance of cooperation and sharing of knowledge. The very same day as the Arctic States were gathered in Ilulissat Greenland to celebrate the 10-year anniversary of the *Ilulissat Declaration* and peaceful cooperation in the Arctic.

The Science agreement highlights significant common interests within research areas such as sustainable use of resources, economic development, human health and environmental protection. All parts of what are needed in order for all of us to move forward.

One of the main objectives of the agreement is to secure better access to research data and results for the benefit of the Arctic and the global research community. If we truly want to promote research and development in the region, we need to be able to put the right mechanisms in place in order to facilitate scientific engagement in Arctic areas.

For the Kingdom of Denmark, it was important to secure an agreement open to collaboration with non-arctic States. We want to collaborate with everyone that is committed to the sustainable development of the Arctic region.

The Kingdom of Denmark holds the role as depositor for the agreement. With the support from the Arctic States but also from the wider Arctic research community, we will strive to develop effective means of follow-up in a close and trustful dialogue.

Several paths must be pursued to secure an effective implementation. As a first step, we are working on establishing an effective network of national contact points to establish the necessary channels of dialogue between our authorities. We have already made some head-way, but are not fully there yet.

To start with, we feel it may be relevant to agree on a common way to report breaches and barriers for the implementation of the agreement. In this regard, the research community has an important role to play by documenting research barriers that needs to be addressed and rectified. Such knowledge needs to be conveyed to responsible authorities and handled accordingly. So, we believe a key priority will be to share thoughts and experiences on how to

establish well-functioning reporting systems within each nation. And have the different agencies discuss how these reporting systems should work. Therefor we would also welcome best practices on this to be shared and learned from.

As a vehicle for active engagement and knowledge-sharing we would also point to a tool that has been developed within the arctic research community in the Kingdom of Denmark.

To facilitate increased collaboration the Arctic research communities have joined forces and created the ISAAFFIK Arctic Gateway. ISAAFFIK Arctic Gateway is a user driven web platform for collaboration, inspiration, synergies and creativity for research, education, consultancy and logistics.

Anyone engaged with the Arctic can sign up for an ISAAFFIK account and thus announce projects, expeditions, courses, activities etc. to create an overview of who's working with what, where and when in the Arctic.

ISAAFFIK is open for international partnership if your institution is interested in developing the platform further. Look up www.isaaffik.org for further information and contact details.

It is time for concrete actions and the Kingdom of Denmark is looking forward to taking active part in the implementation of the agreement.

TOWARDS TRANSBOUNDARY SOCIAL SCIENCES IN THE ARCTIC: CHARACTERISTICS, ACTIVITIES AND ASPIRATIONS OF IASSA WITH REGARD TO THE ARCTIC SCIENCE AGREEMENT

Andrey N Petrov, President IASSA

The International Arctic Social Sciences Association (IASSA) brings together hundreds of members from all Arctic countries and many countries beyond. Formed in 1990 to propel a new era of cooperation between social scientists and humanities scholars from the “West” and from the “East” (USSR), IASSA has since placed international, interdisciplinary cooperation at the forefront of its activities. The rapid growth of social sciences and humanities research in the Arctic is in many ways attributable to the wave of international collaboration in the 1990s, as well as during and post IPY.

As social scientists, back in 1990 IASSA members were acutely aware of the geopolitical tensions, but we took advantage of the new opportunities to advance scientific discovery in a truly collaborative, inclusive and open manner. We are well-aware of geopolitical and other socio-cultural realities today, but we firmly believe that the circumpolar partnership of scholars across the Arctic can and must persist. In fact, it can be a vehicle to promote peace and cooperation in the region. Social scientists and humanities scholars are prepared to lead this process both in theory (e.g., through developing principles of science diplomacy) and in practice working in Arctic communities.

The nature of social sciences and humanities research requires frequent contact and communication with Arctic residents around the Circumpolar region and necessitates continuous physical access to communities, individuals, archives, artefacts, and other human data sources. Even more importantly, international access and equal opportunity are critical for Indigenous knowledge holders and scholars in order to facilitate knowledge exchange, cultural vitality and knowledge co-production. Given the diversity of the Arctic regions and cultures, we achieve best results by working in international teams and consortia with scholars from multiple Arctic and non-Arctic jurisdictions, who bring together interdisciplinary experiences, expertise and funding. Therefore, the social sciences community places high hope in the implementation of the Agreement.

IASSA is an observer to the Arctic Council and strives to provide valuable expertise to various AC working groups and projects, and will be happy to assist in any way or form to the implementation process of this Agreement. Our members have long-standing experiences in working internationally, and could bring to the table concrete examples of existing issues and suggestions of how the Agreement could assist in overcoming them.

One of the most acute problems is access: access to certain countries, access to particular regions and access to data. Some of these challenges could be addressed as a part of the Agreement implementation process. The United States, Russia, Canada and other jurisdictions could look carefully for simple and straightforward ways to facilitate issues of visas and access permits for scholars engaged in international projects in the Arctic. Although we understand the constraints of such decisions, we hope that, at minimum, the signatory states could agree not to create

additional obstacles for processing these access documents and do their best to streamline application and decision-issuance processes.

Access to data and objects, including acquisition, collection, transportation and repatriation of data, information, historical materials, archaeological artefacts, etc. is another key issue. Cross-border and sometimes intra-country mobility of data and objects could be difficult or impossible. Assuming that legitimate concerns are addressed, we need to strive to improve international mobility of objects and information in order to ensure that our knowledge discovery (and decisions based on this work) is based on full and complete information. Physical access to communities and frequently a long-term presence, are necessary for most social science research. IASSA adheres to strict ethical principles for community-based work and believes in community's right to make their own choices on what research can and should take place on their premises. Given community consent and welcome, scientists could be given a priority in receiving other permits and permissions from regional or national authorities.

CHARACTERISTICS, ACTIVITIES AND NEEDS WITH REGARD TO THE ARCTIC SCIENCE AGREEMENT

Kirsi Latola, Ph.D., Chair of European Polar Board, Director of UArctic Thematic Networks, Thule Institute, University of Oulu, Finland

This statement highlights the importance of successful implementation and follow up of the Agreement in enhancing international Arctic scientific cooperation. The statement is based on the work that has been done since 2010 in the EU funded INTERACT project and at the University of the Arctic.

INTERACT has managed and sent over 700 scientists to field sites and research stations in all eight Arctic countries and beyond to conduct their research and will continue to do this until 2020. The University of the Arctic supports the research and educational and outreach activities, which are always collaborative and cross – border in nature.

The agreement has been signed by all Arctic eight countries; however it will take time before we can see it in full operation. During the past summer and fall people have asking when facing problems in shipping samples from one country to other or not been granted visa, that “but we do have the scientific cooperation agreement in force, can’t I call someone or plea to the agreement to make this happen?”

There is no question that the agreement is needed improvement in facilitating scientific cooperation between the nations. There are great expectations from both Arctic and non-Arctic scholars and researchers in regards better access with better visa procedures, licensees and shipping of samples of different types and so on. In some cases the successful implementation of the scientific cooperation agreement will be the only way for gaining the new scientific knowledge and sooner the agreement is fully integrated into the processes the better.

Very important will be the follow up and feedback on what are the real benefits and impacts of the agreement. In this the researchers, scholars and organizations doing science diplomacy in practice are in key position. For successful implementation and evaluation of the agreement, it is vital to involve those who benefit from the agreement. Effective evaluation needs involvement from Arctic organisations and large scale projects that send researchers and students at all levels e.g. on fieldwork, both nationally and internationally. In this in addition to the INTERACT, European Polar Board and University of the Arctic are ready to help out in the evaluation of the implementation as they have both networks and expertise in place to do this.

THE PROMISE: THE AGREEMENT ON ENHANCING INTERNATIONAL ARCTIC SCIENCE COOPERATION

Larry Hinzman
President, International Arctic Science Committee
Vice-Chair, Sustaining Arctic Observing Networks
Vice Chancellor for Research, University of Alaska Fairbanks

All of us in the Arctic research community were somewhat ambivalent when negotiations began on “Enhancing International Arctic Science Cooperation.” We hoped the results could end years of anxiety and frustration experienced by many of us. While some of us thought that our nations would never reach an agreement, in the end they did, and a legally binding, multilateral agreement was signed, and came into force in May of this year.

Scientific access has always been limited or controlled on the premise of protecting national assets or security, and in a few cases, the concern is well-placed. Access was often allowed after a lengthy process of applications, permitting, oversight and reporting. But not always. Too frequently, applications were ingested into a bureaucratic morass, never again to emerge.

Persistence, diligence, knowing the right people, and knowing how to work the system generally proved effective over time. Success was often predicated upon personal relationships. These partnerships were often maintained for decades and resulted in symbiotic research teams that advanced Arctic science in ways that never could have been achieved without such international collaborations. Scientific cooperation yielded benefits to all nations, and our policy makers recognized that partnerships grew into mutual understanding and common agendas not *because* of protocols for international access, but in their absence.

Over the decades, international collaborations yielded tremendous achievements, despite the hurdles that inevitably accompanied access to foreign research sites. Still, the value of these international partnerships remained clear and the calls from the research community to eliminate administrative obstacles persisted. Workshops on the topic were convened. Personal stories of foiled projects, lost data and ruined samples were told and re-told. Researchers argued that improved access to remote field sites was among the highest priorities to advance Arctic science.

On May 11, 2017, ministers from the eight Arctic nations signed the agreement in Fairbanks, Alaska, at the end of the US Chairmanship of the Arctic Council, as the agreement was negotiated under the Council’s auspices. The parties committed to allowing and facilitating access to their respective lands, waters, and air for scientific research. An allowance was included to enable non-Arctic states to benefit from this agreement by formalizing partnerships with one or more of the Arctic nations.

A collective sigh of relief reverberated through the research community. In a wave of promise, our scepticism vanished and our expectations mounted. In our optimism we expected the bureaucratic challenges, which have been in place for decades, to immediately dissolve under the promise of this newly signed agreement. We did not fully appreciate that our nations are still bound by forms, protocols, and processes. While our policy makers may have great intentions, and our scientists carry great expectations, our Offices of Customs and Immigrations, our Natural Resource Management Agencies, and our local and regional security forces all still have their responsibilities and duties.

Major obstructions to international field research still abound. Our recent NABOS cruise into Russian waters experienced unprecedented difficulties with very dire consequences. The ship was delayed by mid-level bureaucrats for four days upon docking at Murmansk. Despite prior approvals, some equipment was prohibited and some equipment was confiscated, disrupting the cruise, damaging our confidence in research in Russian territory, and limiting the success of the voyage.

If we can use this agreement to help educate our societies and our bureaucracies that our nations do value international collaboration, if those individuals who hold the power to enable or deny access understand their roles in helping to facilitate access, then the power of this agreement will truly meet the intentions of its designers.

The writers and executors of this agreement have given the research community a tremendous gift. We must invest the effort to make it work and we should understand, this will take time, patience and persistence to achieve its potential.

DIRECT AND MEANINGFUL PARTICIPATION IN THE IMPLEMENTATION OF THE ARCTIC SCIENCE AGREEMENT

Sara Olsvig, Member of Parliament, Greenland, Leader of Inuit Ataqatigiit
(Presented by Kuupik Kleist, 5th Prime Minister of Greenland from 2009-2013, with Aka Bendtsen and Metta Jensen)

International scientific cooperation is crucial for the World, for the Arctic and for Arctic peoples. The eight Arctic states, and the numerous self-governing regions and nations of the Arctic consist of many different legislative systems, and making sure that scientific cooperation actually happens can be administratively difficult. Therefore, the Arctic Council Agreement on Enhancing International Arctic Scientific Cooperation will be an important document for the years to come, and must lay the foundation for a wider and more active east-west cooperation across the Arctic, than we see today.

There are a few issues, which require attention in the implementation of the agreement. There are six Arctic Indigenous Peoples' Organizations, which hold position as Permanent Participants in the Arctic Council. Together with the peoples of the numerous self-governing nations of the Arctic, Arctic Indigenous Peoples make up the Arctic societies. In enhancing scientific cooperation, it is crucial, that local peoples and the Indigenous Peoples of the Arctic participate directly and meaningfully in science projects, and that the knowledge derived from research is communicated to the peoples of the Arctic.

One of the Arctic Council Permanent Participants is the Inuit Circumpolar Council, ICC. ICC represents Inuit from Russia, the US, Canada and Greenland and held its 13th General Assembly in Utqiagvik, Alaska in July, this summer. The Utqiagvik Declaration speaks very clearly on the term Indigenous Knowledge and in particular in regards to science cooperation to ensure "the equitable and ethical utilization of Indigenous Knowledge and engagement of Inuit communities to provide guidance to international fora, such as the Arctic Council".

The ICC Utqiagvik Declaration also speaks of engaging "appropriate international fora (e.g. Arctic Council, United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD), Intergovernmental Panel on Climate Change (IPCC)) in all aspects of Arctic science and research to contribute to the advancement of Inuit self-determination by promoting and contributing to activities that achieve partnerships and reflects the utilization of both Inuit Knowledge and science", while also calling for an "Inuit review of the consultation process of the Arctic Council that led to the Arctic Science Cooperation Agreement, and all appropriate United Nations agencies to identify actions to ensure these legal instruments adhere to the human rights affirmed in the UN Declaration [on the Rights of Indigenous Peoples]".

In this debate, I would like to raise awareness on these important goals of the Inuit Circumpolar Council. We must find a way to ensure Indigenous Knowledge is recognized, and directly and meaningfully engage all Arctic peoples in the implementation of the Arctic Science Agreement.

The Arctic Council is a strong and wonderful forum of cooperation. The Arctic Council and the Arctic States must remember to be inclusive in all its processes, including in the formulation and

implementation of agreements. It is the participation of the Arctic peoples and Indigenous Peoples that ensure the legitimacy of the Arctic Council.

Let the implementation of the Arctic Science Agreement be a process that reflects this inclusiveness.

Nothing about us, without us.

IN A WORD... “ACCESS”

John Farrell
Executive Director
U.S. Arctic Research Commission

Good afternoon everyone, and thank you, Paul, for organizing this session. I will talk about “How the US Government is implementing the agreement.”

My perspective is that of a scientist, who was a member of the US delegation that helped negotiate the agreement in nine meetings over three years. On behalf of my government agency, the U.S. Arctic Research Commission, I am the US competent national authority for the agreement, in other words, the initial point of contact.

In this capacity, I engage internationally, with other authorities, and domestically, with representatives from the US government, including State Department, the National Science Foundation, and others.

Because the *purpose* of the agreement is to enhance scientific *cooperation*, the US government is focusing on the agreement’s primary mechanism to enable such, which, in a word, is “**access**.”

And so, for the remainder of my talk, I will focus on access. I will speak to three aspects of it.

First, I will tell you what access means.

Second, I will tell you how we are trying to facilitate access.

Finally, I will share some challenges and opportunities that face us with regard to access.

So, in the agreement, access means three things:

- **Access to Arctic territories.** Science depends on physical entry to and exit from Arctic land, sea, and atmospheric regions, for people, research equipment, samples, and data. The goal is to ease the challenges of securing visas and permits, to minimize or eliminate import/export fees, and to overcome other administrative barriers.
- **Access to research infrastructure and facilities.** This includes transportation and storage of equipment and materials.
- **Access to data.** The parties, recognizing that data are the lifeblood of the scientific enterprise, support full and open access to data, derived products, and published results, with minimum time delay, ideally online, and free of charge.

Second, access has improved.

- **Inclusiveness.** Three articles in the agreement emphasize the fact that research and knowledge production require participation from many people. Article 8 emphasizes education, career development, and training. Nine addresses traditional and local

knowledge. Seventeen addresses cooperation with non-Parties. Although there are only eight signatories to this agreement, no one is excluded from it.

- **Awareness is increasing.** In force since May 2018, the agreement is being discussed in governments (consular officials, for example, and government websites, such as www.arctic.gov), in the press, and in the scientific community (for example, within IASC, UArctic, and IASSA, and in publications such as Paul's *Science* paper).

Finally, challenges and opportunities.

- **Challenges**

- a. Awareness of the agreement needs to grow, and its value and effectiveness remains to be determined. I don't think any nation has yet invoked the agreement to overcome a barrier to research.
- b. While legally binding, the agreement is not sufficiently powerful to overcome or supersede larger, more pressing geopolitical issues. In other words, US consulates are not necessarily going to expedite, or "Fast Track" visas for scientists.

- **Opportunities**

- a. Exercise it. First and foremost, the agreement is like a muscle, it needs to be exercised to grow stronger. The US has started, both domestically and abroad.
- b. Create and foster a team of informed and engaged competent national authorities who establish constructive working relations, such that issues can be addressed effectively and efficiently. This team should develop specific processes and protocols to facilitate implementation.
- c. Expand awareness of the agreement and create communication networks with academics, and other non-governmental experts to assist governments responsible for implementation

In summary, facilitation of access, in all manifestations, by the parties, is critical to the success of science, and is an essential element of cooperation, the very purpose of the agreement.

PERSPECTIVES OF A NON-ARCTIC STATE WITH REGARD TO INTERNATIONAL SCIENTIFIC COOPERATION

Volker Rachold, Head, German Arctic Office; Host of the Arctic Science Ministerial

Dear Colleagues and Friends,

Let me start with thanking Paul for organizing this breakout session and for inviting me to join this distinguished panel. In my former function as Executive Secretary of IASC, I have participated in the work of the Arctic Council Task Force that developed the Science Cooperation Agreement from the very beginning and I am pleased to make a few comments on behalf of the Arctic Council observers.

I think that it is fair to say that the observers very much appreciate the efforts of the Arctic Council to include them in this very important agreement. The agreement is signed by the eight Arctic countries but the way it is formulated allows observer countries to participate in research activities covered by the agreement. In my view this is extremely important because Arctic research is international and does not distinguish between scientists from Arctic and non-Arctic countries.

I want to give you one example. The MOSAiC Expedition (Multidisciplinary Observatory for the Study of Arctic Change) will be the largest and with a total budget exceeding 120 Million € possibly also the most expensive Arctic expedition that was ever undertaken. Next autumn the German icebreaker Polarstern will sail to the Siberian Arctic, stop the engines and drift with the sea-ice across the central Arctic Ocean for one full year. 600 people from 17 countries will participate in the expedition. Polarstern will serve as the central laboratory which will be supplemented by a several-kilometer-wide network of monitoring stations on the sea ice. Four other icebreakers from Sweden, Russia and China will supply the expedition. At least three research aircrafts will be deployed. The MOSAiC Expedition is coordinated by the German Alfred Wegener Institute and Germany made the Arctic Council aware of the expedition because we believe that it could be an interesting test case for some elements of the science cooperation agreement.

The core of the agreement are four articles dealing with access: (1) entry and exit of persons, equipment and material, (2) access to research infrastructure and facilities, (3) access to research areas and (4) access to data. An expedition like MOSAiC would certainly benefit from simplified procedures for entry and exit of persons, equipment and material. At the same time, it clearly shows that non-Arctic have a lot to contribute in terms of expertise, infrastructure and data. Therefore, making it possible for them to participate in research activities under the Science Cooperation Agreement is crucial.

The last thing that I want to mention is the link to the 2nd Arctic Science Ministerial that will be held in Berlin next week. Science Ministers from 30 countries, leaders of the Arctic indigenous peoples' organizations and representatives of the international science organizations with interests in Arctic research will be gathering to discuss further cooperation for supporting and enhancing Arctic science. The meeting builds on the first Ministerial which was held in Washington 2016 and it is co-organized by the European Commission, Germany and Finland. You can hear more about the meeting in another breakout session which starts right after this one,

here in this room. The overarching theme of the Ministerial is “Co-operation in Arctic Science – Challenges and Joint Actions” and the main outcome will be a joint statement signed by the ministers. In my view, the Science Cooperation Agreement could become a powerful instrument to support the implementation of some of these joint actions adopted in Berlin next week.

Thank you

UARCTIC CONGRESS 2018 – PANEL ON ARCTIC SCIENCE AND DIPLOMACY

Bryndis Kjartansdóttir, Senior Arctic Official of Iceland
(Presented in Oulu, Finland, 5 September 2018)

As you will know, the Arctic Council is primarily a regional partnership for sustainable development, mandated to address all three pillars of sustainable development; the environmental, the social and the economic.

Cooperation within the Arctic Council, both the scientific work carried out by its Working Groups and the policy guidance it provides, is channelled through a three-level working structure of the Arctic Council, involving governments, indigenous peoples representatives and the scientific community.

The strong interface between science and policy makers in the Arctic Council has in my opinion ensured a meaningful cooperation in the Arctic. Through the compilation and dissemination of scientific findings, information on best practices, traditional knowledge as well as lessons learned, the Arctic Council is set to establish a common knowledge base to assist both national and local governments in dealing with environmental protection and sustainable development in the Arctic.

In recent years we have, ever increasingly, seen the Arctic become an object of international attention. The number of non-Arctic states, inter-governmental and inter-parliamentary organizations, as well as non-governmental organizations, involved in the Arctic Council as observers has grown. Among them, we are privileged to have the University of the Arctic, participating regularly in Arctic Council meetings.

The active engagement of observers in the work of the Arctic Council has grown as well, which undoubtedly has strengthened the Council's work. In that context I'd like to mention the Arctic Scientific Cooperation Agreement that recently entered into force and was negotiated with an important contribution from observers. Bearing in mind the extensive research activities of many of the Observers States in the Arctic, their involvement in the negotiation process makes the agreement even more valuable for Arctic Science.

The Agreement on Enhancing International Arctic Scientific Cooperation (2017) is expected to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic by removing obstacles to scientific research carried out in the Arctic region.

In addition, the spirit of this agreement goes even further to consider ways and means of creating the best available knowledge base for decision making on Arctic matters.

It would be a meaningful task for the Arctic Council to look at how it can best foster this agreement either through its current working structures or through different ones.

In addition, the Arctic Council may want to take a look at how it can work with international science organisations, such as SAON, IASC and the University of the Arctic on implementing the agreement.

The Arctic Council may also wish to explore possibilities to develop capacities and enterprises to engage Arctic communities more actively in Arctic science efforts by opening up ways of communication between scientists and local communities. Such efforts could focus on academic institutions located in the Arctic and involve indigenous organizations and international organizations such as SAON, IASC and the UArctic as well.

In order to create the best available knowledge for decision making, scientists have identified a need to build an observing system in the Arctic that is comprehensive and coordinated to fill current observational gaps. The recent establishment by the Arctic Council of the Local Environmental Observing Network (LEO) and Circumpolar Local Environmental Observing Network (CLEO) are examples of how we can promote better observations and early warning signals of significant environmental changes. We expect this new emphasis to make the Arctic Council even more relevant to the residents of the Arctic and to the observers, which have a stake in and commitment to sustainable future of the Arctic.

The Arctic Council has in a meaningful way contributed to good cooperation and communication amongst the Arctic States within and about the Arctic Region. With its clear mandate and its regional focus on sustainable development in the Arctic, the Council has been able to continue its work, irrespective of global political tensions. In this way, the Arctic Council continues to be an important venue for political dialogue and peaceful cooperation in the Arctic region.

It is fair to say that this distinctive model for cooperation has proven successful. We have - for example - seen the original priority aims of the Council develop from ground breaking studies and reports into real action, taking the form of – amongst other things – binding agreements.

There is no doubt that science has provided a very efficient tool for Arctic diplomacy which, through the channels of the Arctic Council, has contributed in a meaningful way to peace and stability in the Arctic region despite otherwise troubled waters in international relations.

OFFICIAL MAP FOR THE AGREEMENT ON ENHANCING INTERNATIONAL ARCTIC SCIENTIFIC COOPERATION



AGREEMENT ON ENHANCING INTERNATIONAL ARCTIC SCIENTIFIC COOPERATION

ANNEX 1: Identified Geographic Areas

This map shows the approximate extent of the Identified Geographic Areas described in Annex 1 of the Agreement on Enhancing International Arctic Scientific Cooperation. It is intended for illustrative purposes only.

- Approximate Extent of Identified Geographic Areas
- 62°N
- - - Arctic Circle

Continental shelf areas are not depicted.
U.S. Department of State, OES/OPA, 10/2017

From <https://www.state.gov/e/oes/ocns/opa/arc/278907.htm>

**AGREEMENT
ON ENHANCING INTERNATIONAL ARCTIC SCIENTIFIC COOPERATION**

The Government of Canada, the Government of the Kingdom of Denmark, the Government of the Republic of Finland, the Government of Iceland, the Government of the Kingdom of Norway, the Government of the Russian Federation, the Government of the Kingdom of Sweden, and the Government of the United States of America (hereinafter referred to as the “Parties”),

Recognizing the importance of maintaining peace, stability, and constructive cooperation in the Arctic;

Recognizing the importance of the sustainable use of resources, economic development, human health, and environmental protection;

Reiterating the urgent need for increased actions to mitigate and adapt to climate change;

Emphasizing the importance of using the best available knowledge for decision-making;

Noting the importance of international scientific cooperation in that regard;

Fully taking into account the relevant provisions of the 1982 United Nations Convention on the Law of the Sea, in particular the provisions in Part XIII on marine scientific research as they relate to promoting and facilitating the development and conduct of marine scientific research for peaceful purposes;

Recalling the Kiruna Declaration on the occasion of the Eighth Ministerial meeting of the Arctic Council held in May 2013 and the Iqaluit Declaration on the occasion of the Ninth Ministerial meeting of the Arctic Council held in April 2015;

Recognizing the ongoing development of the International Polar Partnership Initiative as determined by the Executive Council of the World Meteorological Organization;

Recognizing the significance of the research priorities as determined by the International Conference on Arctic Research Planning;

Recognizing the efforts of the Arctic Council and its subsidiary bodies;

Recognizing the significant scientific expertise and invaluable contributions to scientific activities being made by non-Parties and specifically by the Arctic Council Permanent Participants and Arctic Council Observers;

Recognizing the substantial benefit gained from the financial and other investments by the Arctic States and other nations in the International Polar Year and its outcomes, including in particular new scientific knowledge, infrastructure and technologies for observation and analysis;

Recognizing the excellent existing scientific cooperation already under way in many organizations and initiatives, such as the Sustaining Arctic Observing Networks, the International Arctic Science Committee, the University of the Arctic, the Forum of Arctic Research Operators, the International Network for Terrestrial Research and Monitoring in the Arctic, the World Meteorological Organization, the International Council for the Exploration of the Sea, the Pacific Arctic Group, the Association of Polar Early Career Scientists, indigenous knowledge institutions, the International Arctic Social Sciences Association, and many others; and

Desiring to contribute to and build upon existing cooperation and make efforts to develop and expand international Arctic scientific cooperation,

Have agreed as follows:

Article 1 ***Terms and definitions***

For the purposes of this Agreement:

“*Facilitate*” means pursuing all necessary procedures, including giving timely consideration and making decisions as expeditiously as possible;

“*Participant*” means the Parties’ scientific and technological departments and agencies, research centers, universities and colleges, and contractors, grantees and other partners acting with or on behalf of any Party or Parties, involved in Scientific Activities under this Agreement;

“*Scientific Activities*” means efforts to advance understanding of the Arctic through scientific research, monitoring and assessment. These activities may include, but are not limited to, planning and implementing scientific research projects and programs, expeditions, observations, monitoring initiatives, surveys, modelling, and assessments; training personnel; planning, organizing and executing scientific seminars, symposia, conferences, workshops, and meetings; collecting, processing, analyzing, and sharing scientific data, ideas, results, methods, experiences, and traditional and local knowledge; developing sampling methodologies and protocols; preparing publications; and developing, implementing, and using research support logistics and research infrastructure;

“*Identified Geographic Areas*” means those areas described in Annex 1.

Article 2 ***Purpose***

The purpose of this Agreement is to enhance cooperation in Scientific Activities in order to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic.

Article 3 ***Intellectual property and other matters***

Where appropriate, cooperative activities under this Agreement shall take place pursuant to specific implementing agreements or arrangements concluded between the Parties or Participants pertaining to their activities, particularly the financing of such activities, the use of scientific and research results, facilities, and equipment, and dispute settlement. Through such specific agreements or arrangements, the Parties shall, where appropriate, ensure, either directly or through the Participants, adequate and effective protection and fair allocation of intellectual property rights, in accordance with the applicable laws, regulations, procedures, and policies as well as the international legal obligations of the Parties concerned, and address other matters that may result from activities under this Agreement.

Article 4

Entry and exit of persons, equipment, and material

Each Party shall use its best efforts to facilitate entry to, and exit from, its territory of persons, research platforms, material, samples, data, and equipment of the Participants as needed to advance the objectives of this Agreement.

Article 5

Access to research infrastructure and facilities

The Parties shall use their best efforts to facilitate access by the Participants to national civilian research infrastructure and facilities and logistical services such as transportation and storage of equipment and material for the purpose of conducting Scientific Activities in Identified Geographic Areas under this Agreement.

Article 6

Access to research areas

1. The Parties shall facilitate access by the Participants to terrestrial, coastal, atmospheric, and marine areas in the Identified Geographic Areas, consistent with international law, for the purpose of conducting Scientific Activities.
2. The Parties shall facilitate the processing of applications to conduct marine scientific research under this Agreement consistent with the 1982 United Nations Convention on the Law of the Sea.
3. The Parties also shall facilitate joint Scientific Activities that require airborne scientific data collection in the Identified Geographic Areas, and that are subject to specific implementing agreements or arrangements concluded between the Parties or Participants pertaining to those activities.

Article 7

Access to data

1. The Parties shall facilitate access to scientific information in connection with Scientific Activities under this Agreement.
2. The Parties shall support full and open access to scientific metadata and shall encourage open access to scientific data and data products and published results with minimum time delay, preferably online and free of charge or at no more than the cost of reproduction and delivery.
3. The Parties shall facilitate the distribution and sharing of scientific data and metadata by, as appropriate and to the extent practicable, adhering to commonly accepted standards, formats, protocols, and reporting.

Article 8

Education, career development and training opportunities

The Parties shall promote opportunities to include students at all levels of education, and early career scientists, in the Scientific Activities conducted under this Agreement to foster future generations of researchers and to build capacity and expertise to advance knowledge about the Arctic.

Article 9
Traditional and local knowledge

1. The Parties shall encourage Participants to utilize, as appropriate, traditional and local knowledge in the planning and conduct of Scientific Activities under this Agreement.
2. The Parties shall encourage communication, as appropriate, between holders of traditional and local knowledge and Participants conducting Scientific Activities under this Agreement.
3. The Parties shall encourage holders of traditional and local knowledge, as appropriate, to participate in Scientific Activities under this Agreement.

Article 10
Laws, regulations, procedures, and policies

Activities and obligations under this Agreement shall be conducted subject to applicable international law and the applicable laws, regulations, procedures, and policies of the Parties concerned. For those Parties that have subnational governments, the applicable laws, regulations, procedures, and policies include those of their subnational governments.

Article 11
Resources

1. Unless otherwise agreed, each Party shall bear its own costs deriving from its implementation of this Agreement.
2. Implementation of this Agreement shall be subject to the availability of relevant resources.

Article 12
Review of this Agreement

1. The Parties shall meet no later than one year after the entry into force of this Agreement, as convened by the depositary, and from then on as decided by the Parties. The Parties may elect to convene such meetings in conjunction with meetings of the Arctic Council including inviting Arctic Council Permanent Participants and Arctic Council Observers to observe and provide information. Scientific cooperation activities with non-Parties related to Arctic science may be taken into account when reviewing the implementation of this Agreement.
2. At such meetings the Parties shall consider the implementation of this Agreement, including successes achieved and obstacles to implementation, as well as ways to improve the effectiveness and implementation of this Agreement.

Article 13
Authorities and contact points

Each Party shall designate a competent national authority or authorities as the responsible point of contact for this Agreement. The names of and contact information for the designated points of contact are specified in Annex 2 to this Agreement. Each Party shall promptly inform the other Parties in writing through its competent national authority or authorities and through diplomatic channels of any changes to those designations.

Article 14
Annexes

1. Annex 1 referred to in Article 1 constitutes an integral part of this Agreement and is legally binding.
2. Annex 2 referred to in Article 13 does not constitute an integral part of this Agreement and is not legally binding.
3. At meetings of the Parties referred to in Article 12, the Parties may adopt additional legally non-binding Annexes. Annex 2 referred to in Article 13 may be modified as provided in that Article.

Article 15
Settlement of disputes

The Parties shall resolve any disputes concerning the application or interpretation of this Agreement through direct negotiations.

Article 16
Relationship with other international agreements

Nothing in this Agreement shall be construed as altering the rights or obligations of any Party under other relevant international agreements or international law.

Article 17
Cooperation with non-Parties

1. The Parties may continue to enhance and facilitate cooperation with non-Parties with regard to Arctic science.
2. Parties may in their discretion undertake with non-Parties cooperation described in this Agreement and apply measures consistent with those described in this Agreement in cooperation with non-Parties.
3. Nothing in this Agreement shall affect the rights and obligations of the Parties under agreements with non-Parties, nor preclude cooperation between the Parties and non-Parties.

Article 18
Amendments to this Agreement

1. This Agreement may be amended by written agreement of all the Parties.
2. An amendment shall enter into force 30 days after the date on which the depositary has received the last written notification through diplomatic channels that the Parties have completed the internal procedures required for its entry into force.

Article 19
Provisional application, entry into force, and withdrawal

1. This Agreement may be applied provisionally by any signatory that provides a written statement to the depositary of its intention to do so. Any such signatory shall apply this Agreement provisionally in its relations with any other signatory having made the same notification from the date of its statement or from such other date as indicated in its statement.

2. This Agreement shall enter into force for a period of five years 30 days after the date of receipt by the depositary of the last written notification through diplomatic channels that the Parties have completed the internal procedures required for its entry into force.

3. This Agreement shall be automatically renewed for further periods of five years unless a Party notifies the other Parties in writing at least six months prior to the expiration of the first period of five years or any succeeding period of five years of its intent to withdraw from this Agreement, in which event this Agreement shall continue between the remaining Parties.

4. Any Party may at any time withdraw from this Agreement by sending written notification thereof to the depositary through diplomatic channels at least six months in advance, specifying the effective date of its withdrawal. Withdrawal from this Agreement shall not affect its application among the remaining Parties.

5. Withdrawal from this Agreement by a Party shall not affect the obligations of that Party with regard to activities undertaken under this Agreement where those obligations have arisen prior to the effective date of withdrawal.

Article 20 ***Depositary***

The Government of the Kingdom of Denmark shall be the depositary for this Agreement.

DONE at Fairbanks, Alaska, United States of America this 11th day of May, 2017. This Agreement is established in a single copy in the English, French, and Russian languages, all texts being equally authentic. The working language of this Agreement shall be English, the language in which this Agreement was negotiated. The Depositary shall transmit certified copies of this Agreement to the Parties.

ANNEX 1 - Identified Geographic Areas

Identified Geographic Areas for purposes of this Agreement are described by each Party below and include areas over which a State whose government is a Party to this Agreement exercises sovereignty, sovereign rights or jurisdiction, including land and internal waters within those areas and the adjacent territorial sea, exclusive economic zone, and continental shelf, consistent with international law. Identified Geographic Areas also include areas beyond national jurisdiction in the high seas north of 62 degrees north latitude.

The Parties agree that the Identified Geographic Areas are described solely for the purposes of this Agreement. Nothing in this Agreement shall affect the existence or delineation of any maritime entitlement or the delimitation of any boundary between States in accordance with international law.

CANADA - The territories of Yukon, Northwest Territories, and Nunavut and the adjacent marine areas of Canada.

KINGDOM OF DENMARK - The territory of the Kingdom of Denmark including Greenland and the Faroes and its marine areas above the southern limit of the Greenland exclusive economic zone and the Faroese fisheries zone.

FINLAND - The territory of Finland and its marine areas.

ICELAND - The territory of Iceland and its marine areas.

NORWAY - Marine areas north of 62 degrees north latitude, and land areas north of the Arctic Circle (66.6 degrees north latitude).

RUSSIAN FEDERATION

1. Territory of the Murmansk Region;
2. Territory of the Nenets Autonomous Area;
3. Territory of the Chukchi Autonomous Area;
4. Territory of the Yamalo-Nenets Autonomous Area;
5. Territory of the municipal entity "Vorkuta" (Komi Republic);
6. Territories of Allaikhoiv Ulus (District), Anabar National (Dolgano-Evenk) Ulus (District), Bulun Ulus (District), Nizhnekolymsk District, Ust-Yan Ulus (District) (Sakha Republic (Yakutia));
7. Territories of the Urban District of Norilsk, Taimyr Dolgan-Nenets Municipal District, Turukhan District (Krasnoyarsk Territory);
8. Territories of the municipal entities "The City of Arkhangelsk", "Mezen Municipal District", "Novaya Zemlya", "The City of Novodvinsk", "Onega Municipal District", "Primorsky Municipal District", "Severodvinsk" (Arkhangelsk region);
9. Lands and islands of the Arctic Ocean, identified in the Resolution of the Presidium of the Central Executive Committee of the USSR dated April 15, 1926 "On the announcement of lands and islands situated in the Arctic Ocean as a territory of the Union of SSR" and other legislative acts of the USSR;

as well as adjacent marine areas.

Note: Territories of the municipal entities, listed in the abovementioned items 5 – 8, identified within the borders as of April 1, 2014.

SWEDEN - The territory of Sweden and its marine areas north of 60.5 degrees north latitude.

UNITED STATES OF AMERICA - All United States territory north of the Arctic Circle and north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; the Aleutian chain; and adjacent marine areas in the Arctic Ocean and the Beaufort, Bering, and Chukchi Seas.

ANNEX 2 - Authorities and contact points

CANADA

Polar Knowledge Canada
170 Laurier Avenue West, 2ND Floor, Suite 200, Ottawa, Ontario K1P 5V5
Telephone: +1 613 943 8605
Email: info@polar.gc.ca

Point of contact for Marine Scientific Research requests:

Global Affairs Canada
Security and Defense Relations, 125 Sussex Drive, Ottawa, Ontario K1A 0G2
Telephone: +1 343 203 3208
Email: chris.conway@international.gc.ca ; EXTOTT-IGR@international.gc.ca

KINGDOM OF DENMARK

The Ministry of Foreign Affairs
Department for Northern America and the Arctic
Asiatisk Plads 2, 1448 Copenhagen K
Telephone: + 45 33 92 00 00
Email: ana@um.dk

Danish Agency for Science and Higher Education
Bredgade 40
DK-1260 Copenhagen K
Telephone: +45 3544 6200
Email: sfu@ufm.dk

Department of Foreign Affairs
Postboks 1340, 3900 Nuuk
Telephone: +299 34 50 00
Email: nap@nanoq.gl

Ministry of Education, Culture, Research and Church
Postboks 1029, 3900 Nuuk
Telephone: +299 34 50 00
Email: ikiin@nanoq.gl

Ministry of Foreign Affairs and Trade
Gongin 7, Postbox 377, 110 Tórshavn
Telephone: +298 30 66 00
Email: uvmr@uvmr.fo

Ministry of Education, Research and Culture
Hoyvíksvegur 72, Postbox 3279, 110 Tórshavn
Telephone: +298 30 65 00
Email: mmr@mmr.fo

FINLAND

Ministry of Education and Culture
P.O. Box 29, FI-00023 Government
(Visiting addresses: Meritullinkatu 10, Helsinki;
Meritullinkatu 1, Helsinki)
Telephone: +358 2953 30004 (Switchboard)
Email: kirjaamo@minedu.fi

ICELAND

Ministry of Education, Science and Culture
Sölvhólgata 4, 150 Reykjavík
Tel: +354 545 9500
Email: postur@mmr.stjr.is

The Icelandic Center for Research
Borgartún 30, 105 Reykjavík
Tel: +354 515 5800
Email: rannis@rannis.is

NORWAY

Ministry of Education and Research
P.O. Box 8119 Dep, N-0032 Oslo
Visitor address: Kirkegata 18, Oslo
Telephone: +47 22 24 90 90
Email: postmottak@kd.dep.no

The Research Council of Norway
P.O. Box 564 N-1327 Lysaker
Visitor address: Drammensveien 288, Oslo
Telephone: +47 22 03 70 00
Email: post@forskningsradet.no

RUSSIAN FEDERATION

Ministry of Education and Science
Department of Science and Technology
Tverskaya st., 11, Moscow 125993
Telephone: +7 495 629 03 64
Email: D-14@mon.gov.ru

SWEDEN

Ministry of Education and Research
103 33 Stockholm
Telephone: +46 8 405 1000
Email: u.registrator@regeringskansliet.se

UNITED STATES OF AMERICA

US Arctic Research Commission
Executive Director, US Arctic Research Commission
4350 N. Fairfax Dr., Suite 510, Arlington, VA 22203
Telephone: +1 703 525 0113
Email: info@arctic.gov

ACCORD SUR LE RENFORCEMENT DE LA COOPÉRATION SCIENTIFIQUE INTERNATIONALE DANS L'ARCTIQUE

Le Gouvernement du Canada, le Gouvernement du Royaume de Danemark, le Gouvernement de la République de Finlande, le Gouvernement de l'Islande, le Gouvernement du Royaume de Norvège, le Gouvernement de la Fédération de Russie, le Gouvernement du Royaume de Suède et le Gouvernement des États-Unis d'Amérique (ci-après dénommés les « Parties »),

Reconnaissant l'importance de maintenir la paix, la stabilité et une coopération constructive dans l'Arctique;

Reconnaissant l'importance de l'utilisation durable des ressources, du développement économique, de la santé humaine et de la protection de l'environnement;

Réaffirmant qu'il est urgent d'intensifier les mesures prises pour atténuer le changement climatique et s'y adapter;

Soulignant l'importance de recourir aux meilleures connaissances disponibles dans la prise des décisions;

Notant l'importance de la coopération scientifique internationale à cet égard;

Tenant pleinement compte des dispositions pertinentes de la Convention des Nations Unies sur le droit de la mer de 1982, en particulier celles de la partie XIII sur la recherche scientifique marine portant sur l'encouragement et la facilitation du développement et de la conduite de la recherche scientifique marine à des fins pacifiques;

Rappelant la Déclaration de Kiruna issue de la huitième réunion ministérielle du Conseil de l'Arctique tenue en mai 2013, et la Déclaration d'Iqaluit issue de la neuvième réunion ministérielle du Conseil de l'Arctique tenue en avril 2015;

Reconnaissant les avancées continues réalisées dans le cadre de l'Initiative pour un partenariat polaire international, telle qu'elle a été définie par le Conseil exécutif de l'Organisation météorologique mondiale;

Reconnaissant l'importance des priorités de recherche telles qu'elles ont été définies par la Conférence internationale sur la planification de la recherche arctique;

Reconnaissant les efforts déployés par le Conseil de l'Arctique et ses organes subsidiaires;

Reconnaissant l'expertise scientifique considérable et les contributions précieuses aux activités scientifiques apportées par des non-Parties, plus particulièrement par les participants permanents et les observateurs auprès du Conseil de l'Arctique;

Reconnaissant les avantages substantiels procurés par les investissements financiers et autres réalisés par les États de l'Arctique et d'autres nations pendant l'Année polaire internationale, ainsi que les retombées de cette dernière, en particulier les nouvelles connaissances scientifiques, les infrastructures et les technologies en matière d'observation et d'analyse;

Reconnaissant l'excellence de la coopération scientifique qui existe déjà dans le cadre de nombreuses organisations et initiatives, comme les Réseaux d'observation permanente de l'Arctique (Sustaining Arctic Observing Networks), le Comité international des sciences de l'Arctique (International Arctic Science Committee), l'Université de l'Arctique (University of the Arctic), le Forum sur la recherche arctique (Forum of Arctic Research Operators), le Réseau mondial de recherche et de

surveillance terrestres dans l'Arctique (International Network for Terrestrial Research and Monitoring in the Arctic), l'Organisation météorologique mondiale, le Conseil international pour l'exploration de la mer, le Groupe Pacifique de l'Arctique (Pacific Arctic Group), l'Association des chercheurs polaires en début de carrière (Association of Polar Early Career Scientists), les institutions du savoir autochtones, l'Association internationale des sciences sociales arctiques (International Arctic Social Sciences Association) et de nombreux autres;

Désirant apporter leur contribution à la coopération existante et s'appuyer sur cette dernière, tout en déployant des efforts pour développer et élargir la coopération scientifique internationale dans l'Arctique,

Sont convenus de ce qui suit :

Article premier ***Termes et définitions***

Pour l'application du présent accord :

« *faciliter* » signifie recourir à toutes les procédures nécessaires, y compris examiner en temps utile et prendre des décisions le plus rapidement possible;

« *participant* » signifie les ministères et organismes scientifiques et technologiques, centres de recherche, universités et collèges, entrepreneurs, titulaires de subvention et autres partenaires des Parties qui agissent de concert avec une ou plusieurs Parties, ou pour le compte de celles-ci, et qui prennent part aux activités scientifiques visées dans le présent accord;

« *activités scientifiques* » signifie les efforts destinés à faire progresser la compréhension de l'Arctique au moyen de la recherche, de la surveillance et de l'évaluation scientifiques. Ces activités peuvent comprendre, entre autres, la planification et la mise en œuvre de projets et de programmes de recherche, d'expéditions, d'observations, d'initiatives de surveillance, d'études, de modélisations et d'évaluations scientifiques; la formation du personnel; la planification, l'organisation et la tenue de séminaires, colloques, conférences, ateliers et réunions scientifiques; la collecte, le traitement, l'analyse et l'échange de données, d'idées, de résultats, de méthodes et d'expériences scientifiques et de savoirs traditionnels et locaux; l'élaboration de méthodologies et de protocoles d'échantillonnage; la préparation de publications; ainsi que l'élaboration, la mise en œuvre et l'utilisation de soutiens logistiques à la recherche et d'infrastructures de recherche;

« *zones géographiques désignées* » signifie les zones décrites à l'annexe 1.

Article 2 ***Objectif***

Le présent accord vise à renforcer la coopération dans le domaine des activités scientifiques dans le but d'accroître l'efficacité et l'efficacité du développement des connaissances scientifiques sur l'Arctique.

Article 3 ***Propriété intellectuelle et autres questions***

S'il y a lieu, les activités de coopération visées dans le présent accord se déroulent conformément aux accords ou arrangements de mise en œuvre particuliers conclus entre les Parties ou les participants relativement à leurs activités, notamment en ce qui concerne le financement de ces activités, l'utilisation des résultats, des installations et de l'équipement scientifiques et de recherche, et le règlement des différends. Au moyen

de ces accords ou arrangements particuliers, les Parties assurent, s'il y a lieu, directement ou par l'intermédiaire des participants, une protection adéquate et effective et une attribution équitable des droits de propriété intellectuelle, en conformité avec les lois, règlements, procédures et politiques applicables et les obligations juridiques internationales des Parties concernées, et règlent toute autre question découlant des activités visées dans le présent accord.

Article 4

Entrée et sortie de personnes, d'équipement et de matériel

Chaque Partie s'efforce de faciliter l'entrée sur son territoire et la sortie de son territoire des personnes, des plates-formes de recherche, de matériel, des échantillons, des données et de l'équipement des participants dans la mesure nécessaire pour faire progresser la réalisation des objectifs du présent accord.

Article 5

Accès aux infrastructures et aux installations de recherche

Les Parties s'efforcent de faciliter l'accès des participants à des infrastructures et installations de recherche civiles nationales et à des services logistiques, tels que le transport et l'entreposage d'équipement et de matériel aux fins de conduite d'activités scientifiques dans les zones géographiques désignées au titre du présent accord.

Article 6

Accès aux zones de recherche

1. Les Parties facilitent l'accès des participants aux zones terrestres, côtières, atmosphériques et marines dans les zones géographiques désignées, conformément au droit international, aux fins de conduite d'activités scientifiques.
2. Les Parties facilitent le traitement des demandes d'autorisation d'effectuer des recherches scientifiques marines au titre du présent accord conformément à la Convention des Nations Unies sur le droit de la mer de 1982.
3. Les Parties facilitent aussi les activités scientifiques communes qui nécessitent la collecte de données scientifiques aériennes dans les zones géographiques désignées, et qui font l'objet d'accords ou d'arrangements de mise en œuvre particuliers conclus entre les Parties ou les participants relativement à ces activités.

Article 7

Accès aux données

1. Les Parties facilitent l'accès aux renseignements scientifiques se rapportant aux activités scientifiques visées dans le présent accord.
2. Les Parties appuient un accès total et ouvert aux métadonnées scientifiques et encouragent un accès ouvert aux données scientifiques ainsi qu'aux produits de données et aux résultats publiés, et ce dans les meilleurs délais, de préférence en ligne et à titre gratuit, ou moyennant des frais ne dépassant pas le coût de reproduction et de livraison.
3. Les Parties facilitent la distribution et l'échange de données et de métadonnées scientifiques en se conformant, s'il y a lieu et dans la mesure du possible, aux normes, formats, protocoles et rapports généralement acceptés.

Article 8

Possibilités d'apprentissage, de développement professionnel et de formation

Les Parties favorisent l'inclusion des étudiants de tous les niveaux ainsi que des chercheurs en début de carrière dans les activités scientifiques conduites au titre du présent accord afin de contribuer à la formation des futures générations de chercheurs et à l'acquisition des capacités et de l'expertise nécessaires pour faire progresser les connaissances sur l'Arctique.

Article 9

Savoirs traditionnels et locaux

1. Les Parties encouragent les participants à utiliser, s'il y a lieu, les savoirs traditionnels et locaux dans la planification et la conduite des activités scientifiques visées dans le présent accord.
2. Les Parties encouragent, s'il y a lieu, la communication entre les détenteurs de savoirs traditionnels et locaux et les participants qui mènent des activités scientifiques visées dans le présent accord.
3. Les Parties encouragent, s'il y a lieu, les détenteurs de savoirs traditionnels et locaux à participer aux activités scientifiques visées dans le présent accord.

Article 10

Lois, règlements, procédures et politiques

Les activités et les obligations visées dans le présent accord sont exécutées dans le respect des dispositions applicables du droit international et des lois, règlements, procédures et politiques applicables des Parties concernées. Dans le cas des Parties ayant des gouvernements infranationaux, les lois, règlements, procédures et politiques applicables comprennent ceux de leurs gouvernements infranationaux.

Article 11

Ressources

1. À moins qu'il n'en soit convenu autrement, chaque Partie prend en charge ses propres coûts résultant de la mise en œuvre du présent accord.
2. La mise en œuvre du présent accord est subordonnée à la disponibilité des ressources pertinentes.

Article 12

Examen du présent accord

1. Les Parties se réunissent au plus tard un an après l'entrée en vigueur du présent accord, sur convocation du dépositaire, et ensuite selon la fréquence décidée par les Parties. Les Parties peuvent décider de convoquer ces réunions en même temps que celles du Conseil de l'Arctique, y compris inviter les participants permanents et les observateurs auprès du Conseil de l'Arctique à y assister en qualité d'observateurs et à fournir des renseignements. Les activités de coopération scientifique avec des non-Parties se rapportant aux sciences de l'Arctique peuvent être prises en compte lors de l'examen de la mise en œuvre du présent accord.
2. Pendant ces réunions, les Parties examinent la mise en œuvre du présent accord, y compris les succès obtenus et les obstacles à la mise en œuvre, ainsi que les moyens d'améliorer l'efficacité et la mise en œuvre du présent accord.

Article 13
Autorités et points de contact

Chaque Partie désigne une ou plusieurs autorités nationales compétentes comme points de contact responsables du présent accord. Les noms et les coordonnées des points de contact désignés sont précisés à l'annexe 2 du présent accord. Chaque Partie informe rapidement par écrit les autres Parties, par l'intermédiaire de sa ou ses autorités nationales compétentes et par la voie diplomatique, de toute modification apportée à ces désignations.

Article 14
Annexes

1. L'annexe 1 mentionnée à l'article premier fait partie intégrante du présent accord et est juridiquement contraignante.
2. L'annexe 2 mentionnée à l'article 13 ne fait pas partie intégrante du présent accord et n'est pas juridiquement contraignante
3. Lors des réunions des Parties mentionnées à l'article 12, les Parties peuvent adopter des annexes supplémentaires non contraignantes juridiquement. L'annexe 2 mentionnée à l'article 13 peut être modifiée conformément aux dispositions de cet article.

Article 15
Règlement de différends

Les Parties règlent au moyen de négociations directes tout différend portant sur l'application ou l'interprétation du présent accord.

Article 16
Relation avec d'autres accords internationaux

Le présent accord n'a pas pour effet de modifier les droits ou obligations qui incombent aux Parties au titre d'autres accords internationaux pertinents ou du droit international.

Article 17
Coopération avec des non-Parties

1. Les Parties peuvent continuer de renforcer et de faciliter la coopération avec des non-Parties dans le domaine des sciences de l'Arctique.
2. Les Parties peuvent, à leur discrétion, entreprendre la coopération décrite dans le présent accord avec des non-Parties, et appliquer des mesures compatibles avec celles décrites dans le présent accord en collaboration avec des non-Parties.
3. Le présent accord n'a pas pour effet d'affecter les droits et obligations des Parties au titre d'accords avec des non-Parties, ni d'empêcher la coopération entre les Parties et des non-Parties.

Article 18
Amendements au présent accord

1. Le présent accord peut être amendé par accord écrit de toutes les Parties.
2. Un amendement entre en vigueur 30 jours après la date à laquelle le dépositaire a reçu, par la voie diplomatique, la dernière notification écrite l'informant que les Parties ont accompli les formalités internes requises pour son entrée en vigueur.

Article 19
Application provisoire, entrée en vigueur et retrait

1. Le présent accord peut être appliqué à titre provisoire par tout signataire ayant communiqué au dépositaire une déclaration écrite de son intention en ce sens. Le signataire en question applique le présent accord à titre provisoire dans ses relations avec tout autre signataire ayant procédé à la même notification à compter de la date de sa déclaration ou de toute autre date indiquée dans sa déclaration.
2. Le présent accord entre en vigueur pour une durée de cinq ans 30 jours après la date de la réception par le dépositaire, par la voie diplomatique, de la dernière notification écrite l'informant que les Parties ont accompli les formalités internes requises pour son entrée en vigueur.
3. Le présent accord est reconduit automatiquement pour de nouvelles périodes de cinq ans à moins qu'une Partie ne notifie par écrit aux autres Parties, au moins six mois avant l'expiration de la première période de cinq ans ou de toute période subséquente de cinq ans, son intention de se retirer du présent accord, auquel cas le présent accord demeure en vigueur entre les autres Parties.
4. Toute Partie peut se retirer en tout temps du présent accord moyennant un préavis écrit d'au moins six mois, précisant la date de prise d'effet de son retrait, envoyé au dépositaire par la voie diplomatique. Le retrait du présent accord par une Partie n'a aucune incidence sur l'application de celui-ci à l'égard des autres Parties.
5. Le retrait du présent accord par une Partie n'a aucune incidence sur les obligations de celle-ci en ce qui concerne les activités entreprises au titre du présent accord si ces obligations sont antérieures à la date de prise d'effet du retrait.

Article 20
Dépositaire

Le Gouvernement du Royaume de Danemark est le dépositaire du présent accord.

FAIT à Fairbanks (Alaska), États-Unis d'Amérique, ce 11^e jour de mai 2017. Le présent accord est rédigé en un exemplaire unique en langues française, anglaise et russe, chaque version faisant également foi. La langue de travail du présent accord est l'anglais, langue dans laquelle il a été négocié. Le dépositaire transmet des copies certifiées du présent accord aux Parties.

ANNEXE 1 – Zones géographiques désignées

Les zones géographiques désignées pour l'application du présent accord sont décrites ci-dessous par chaque Partie et comprennent les zones sur lesquelles un État dont le gouvernement est Partie au présent accord exerce sa souveraineté, ses droits souverains ou sa juridiction, y compris les terres et les eaux intérieures situées dans ces zones, ainsi que la mer territoriale, la zone économique exclusive et le plateau continental adjacents, conformément au droit international. Les zones géographiques désignées comprennent aussi les zones situées au-delà de la juridiction nationale en haute mer au nord du 62° degré de latitude nord.

Les Parties conviennent que les zones géographiques désignées sont décrites uniquement pour l'application du présent accord. Le présent accord n'a aucune incidence sur l'existence ou la délimitation de droits maritimes ou la délimitation de frontières entre États conformément au droit international.

CANADA – Les territoires du Yukon, des Territoires du Nord-Ouest et du Nunavut ainsi que les zones marines adjacentes du Canada.

ROYAUME DE DANEMARK – Le territoire du Royaume de Danemark, y compris le Groenland et les îles Féroé, et ses zones marines situées au-delà de la limite sud de la zone économique exclusive du Groenland et de la zone de pêche des îles Féroé.

FINLANDE – Le territoire de la Finlande et ses zones marines.

ISLANDE – Le territoire de l'Islande et ses zones marines.

NORVÈGE – Les zones marines au nord du 62° degré de latitude nord et les zones terrestres au nord du cercle arctique (66,6° degré de latitude nord).

FÉDÉRATION DE RUSSIE

1. Territoire de la Région de Mourmansk;
2. Territoire de l'Arrondissement autonome des Nenets;
3. Territoire de l'Arrondissement autonome des Tchouktches;
4. Territoire de l'Arrondissement autonome des Iamalo-Nenets;
5. Territoire de l'entité municipale « Vorkouta » (République des Komis);
6. Territoires de l'Ulus d'Allaikhov (District), de l'Ulus national d'Anabar (Dolgano-Evenk) (District), de l'Ulus de Bulun (District), du District de Nizhnekolymsk, de l'Ulus d'Ust-Yana (District) (République de Sakha (Yakoutie));
7. Territoires du District urbain de Norilsk, du District municipal Dolgano-Nénètse de Taïmyr et du District de Touroukhansk (Territoire de Krasnoïarsk);
8. Territoires des entités municipales « La Ville d'Arkhangelsk », « District municipal de Mezen », « Novaïa Zemlia », « La Ville de Novodvinsk », « District municipal Onega », « District municipal Primorsky », « Severodvinsk » (région d'Arkhangelsk);
9. Les terres et les îles de l'océan Arctique, désignées dans la résolution du Présidium du Comité exécutif central de l'URSS datée du 15 avril 1926 intitulée « Déclaration relative aux terres et aux îles situées dans l'océan Arctique en tant que territoire de l'URSS » et d'autres actes législatifs de l'URSS;

ainsi que les zones marines adjacentes.

Nota : Les territoires des entités municipales énumérées aux points 5 à 8 ci-dessus sont désignés sur la base des frontières au 1^{er} avril 2014.

SUÈDE – Le territoire de la Suède et ses zones marines au nord du 60,5° degré de latitude nord.

ÉTATS-UNIS D'AMÉRIQUE – Tout le territoire des États-Unis d'Amérique au nord du cercle arctique et au nord et à l'ouest de la frontière tracée par la rivière Porcupine, le fleuve Yukon et le fleuve Kuskokwim; l'Arc des Aléoutiennes; et les zones marines adjacentes situées dans l'océan Arctique et les mers de Beaufort, de Béring et des Tchouktches.

ANNEXE 2 – Autorités et points de contact

CANADA

Savoir polaire Canada

170, avenue Laurier Ouest, 2^{ème} étage, bureau 200, Ottawa, Ontario K1P 5V5

Téléphone : +1 613 943 8605

Adresse électronique : info@polar.gc.ca

Point de contact pour les demandes de recherche scientifique marine :

Affaires Mondiales Canada

Sécurité et relations de défense, 125 promenade Sussex, Ottawa, Ontario K1A 0G2

Téléphone : +1 343 203 3208

Adresse électronique : chris.conway@international.gc.ca; EXTOTT-IGR@international.gc.ca

ROYAUME DE DANEMARK

Ministère des Affaires étrangères

Département de l'Amérique du Nord et de l'Arctique

Asiatisk Plads 2

1448 Copenhagen K

Téléphone : +45 33 92 00 00

Adresse électronique : ana@um.dk

Agence danoise de la Science et de l'Enseignement supérieur

Bredgade 40

DK-1260 Copenhagen K

Téléphone : +45 35 44 62 00

Adresse électronique : sfu@ufm.dk

Département des Affaires étrangères

Postboks 1340, 3900 Nuuk

Téléphone : +299 34 50 00

Adresse électronique : nap@nanoq.gl

Ministère de l'Éducation, de la Culture, de la Recherche et de l'Église

Postboks 1029, 3900 Nuuk

Téléphone : +299 34 50 00

Adresse électronique : ikiin@nanoq.gl

Ministère des Affaires étrangères et du Commerce

Gongin 7, Postbox 377, 110 Tórshavn

Téléphone : +298 30 66 00

Adresse électronique : uvmr@uvmr.fo

Ministère de l'Éducation, de la Recherche et de la Culture

Hoyvíksvegur 72, Postbox 3279, 110 Tórshavn

Téléphone : +298 30 65 00

Adresse électronique : mmmr@mmmr.fo

FINLANDE

Ministère de l'Éducation et de la Culture

P.O. Box 29, FI-00023 Government

(adresses pour les rendez-vous: Meritullinkatu 10, Helsinki;

Meritullinkatu 1, Helsinki)

Téléphone : +358 2953 30004 (standard)

Adresse électronique : kirjaamo@minedu.fi

ISLANDE

Ministère de l'Éducation, de la Science et de la Culture
Sölvhólgata 4, 150 Reykjavík
Téléphone : +354 545 9500
Adresse électronique : postur@mmr.stjr.is

Centre islandais pour la recherche
Borgartún 30, 105 Reykjavík
Téléphone : +354 515 5800
Adresse électronique : rannis@rannis.is

NORVÈGE

Ministère de l'Éducation et de la Recherche
P.O. Box 8119 Dep, N-0032 Oslo
Adresse pour les rendez-vous : Kirkegata 18, Oslo
Téléphone : +47 22 24 90 90
Adresse électronique : postmottak@kd.dep.no
Conseil norvégien de la recherche
P.O Box 564 N-1327 Lysaker
Adresse pour les rendez-vous : Drammensveien 288, Oslo
Téléphone : +47 22 03 70 00
Adresse électronique : post@forskningsradet.no

FÉDÉRATION DE RUSSIE

Ministère de l'Éducation et de la Science
Département de la Science et de la Technologie
11, rue Tverskaya, Moscou 125993
Téléphone : +7 (495) 629 03 64
Adresse électronique : D-14@mon.gov.ru

SUÈDE

Ministère de l'Éducation et de la Recherche
103 33 Stockholm
Téléphone : +46 8 405 1000
Adresse électronique : u.registrator@regeringskansliet.se

ÉTATS-UNIS D'AMÉRIQUE

US Arctic Research Commission
Directeur exécutif, US Arctic Research Commission
4350 N. Fairfax Dr., Suite 510,
Arlington, VA 22203
Téléphone : + 1 703 525 0113
Adresse électronique : info@arctic.gov

СОГЛАШЕНИЕ

ПО УКРЕПЛЕНИЮ МЕЖДУНАРОДНОГО АРКТИЧЕСКОГО НАУЧНОГО СОТРУДНИЧЕСТВА

Правительство Канады, Правительство Королевства Дания, Правительство Финляндской Республики, Правительство Исландии, Правительство Королевства Норвегия, Правительство Российской Федерации, Правительство Королевства Швеция и Правительство Соединенных Штатов Америки (именуемые в дальнейшем «Стороны»),

признавая важность сохранения мира, стабильности, а также конструктивного сотрудничества в Арктике;

признавая важность устойчивого использования ресурсов, экономического развития, здоровья человека и защиты окружающей среды;

отмечая вновь острую необходимость усиленных действий по смягчению последствий изменения климата и адаптации к ним;

выделяя важность использования для принятия решений наилучших знаний, имеющихся в распоряжении;

отмечая в связи с этим важность международного научного сотрудничества;

в полной мере учитывая соответствующие положения Конвенции Организации Объединенных Наций по морскому праву 1982 года, в частности, положения Части XIII о морских научных исследованиях, так как они относятся к поощрению и облегчению развития и проведения морских научных исследований в мирных целях;

ссылаясь на Кирунскую декларацию по итогам Восьмой Министерской встречи Арктического совета, состоявшейся в мае 2013 года, и на Икалутскую декларацию по итогам Девятой Министерской встречи Арктического совета, состоявшейся в апреле 2015 года;

признавая ведущуюся разработку Международной полярной партнерской инициативы в соответствии с решением Исполнительного комитета Всемирной метеорологической организации;

признавая значение исследовательских приоритетов, определенных Международной конференцией по планированию арктических исследований;

признавая усилия Арктического совета и его вспомогательных органов;

признавая значительные научные экспертные знания и неоценимый вклад в научную деятельность сторон, которые не являются Сторонами данного Соглашения, и, в особенности, Постоянных участников Арктического совета и Наблюдателей Арктического совета;

признавая существенную пользу, полученную от финансовых и иных инвестиций арктических государств и других стран в Международный полярный год и от его результатов, включающих, в частности, новые научные знания, инфраструктуру и технологии для наблюдений и анализа;

признавая отличное научное сотрудничество, уже осуществляющееся в рамках многих организаций и инициатив, таких как Сеть арктических опорных наблюдений, Международный арктический научный комитет, Университет Арктики, Форум арктических научно-исследовательских операторов,

Международная сеть для наземных исследований и мониторинга в Арктике, Всемирная метеорологическая организация, Международный совет по исследованию моря, Тихоокеанская арктическая группа, Ассоциация молодых полярных исследователей, учреждения, занимающиеся знаниями коренных народов, Международная арктическая ассоциация общественных наук и многие другие; а также

желая оказывать поддержку существующему сотрудничеству и наращивать его, а также предпринимать усилия для развития и расширения международного арктического научного сотрудничества,

согласились о нижеследующем:

Статья 1

Термины и определения

Для целей настоящего Соглашения:

«*Содействовать*» означает выполнять все необходимые процедуры, включая своевременное рассмотрение вопросов и максимально оперативное, насколько возможно, принятие решений;

«*Участник*» означает научно-технические подразделения и ведомства, исследовательские центры, университеты и колледжи, а также подрядчики, грантополучатели и другие партнеры Сторон, действующие совместно с любой Стороной или Сторонами или от их имени, задействованные в научной деятельности в рамках настоящего Соглашения;

«*Научная деятельность*» означает усилия по улучшению понимания Арктики посредством научных исследований, мониторинга и оценки. Такая деятельность может включать следующие виды деятельности, но не ограничивается ими: планирование и реализацию научно-исследовательских проектов и программ, экспедиций, наблюдений, инициатив по мониторингу, съемок, моделирования и оценок; подготовку персонала; планирование, организацию и проведение научных семинаров, симпозиумов, конференций, практикумов и встреч; сбор, обработку, анализ и обмен научными данными, идеями, результатами, методами, опытом, а также традиционными и местными знаниями; разработку методологий и протоколов отбора проб; подготовку публикаций; а также развитие, реализацию и использование логистической поддержки научно-исследовательской деятельности и исследовательской инфраструктуры;

«*Установленные географические районы*» означает районы, описанные в Приложении № 1.

Статья 2

Цель

Целью настоящего Соглашения является укрепление сотрудничества в области научной деятельности для повышения результативности и эффективности развития научных знаний об Арктике.

Статья 3

Интеллектуальная собственность и другие вопросы

В тех случаях, когда это целесообразно, совместная деятельность в рамках настоящего Соглашения осуществляется в соответствии со специальными соглашениями или договоренностями о ее реализации, заключенными между

Сторонами или Участниками и относящимися к их деятельности, в частности, к финансированию такой деятельности, использованию результатов научно-исследовательской деятельности, объектов и оборудования, а также к урегулированию споров. Посредством таких специальных соглашений или договоров Стороны в тех случаях, когда это целесообразно, обеспечивают, напрямую или через Участников, адекватную и эффективную охрану и справедливое распределение прав на объекты интеллектуальной собственности в соответствии с применимым законодательством, подзаконными актами, процедурами и политикой, а также международно-правовыми обязательствами соответствующих Сторон, и рассматривают другие вопросы, которые могут возникнуть в результате деятельности в рамках настоящего Соглашения.

Статья 4

Въезд-выезд лиц и ввоз-вывоз оборудования и материала

Каждая из Сторон прилагает максимальные усилия для содействия въезду и ввозу на её территорию, а также выезду и вывозу с её территории физических лиц, исследовательских платформ, материала, образцов, данных и оборудования Участников, которые требуются для достижения целей настоящего Соглашения.

Статья 5

Доступ к исследовательской инфраструктуре и на объекты

Стороны прилагают максимальные усилия для содействия предоставлению Участникам доступа к национальной гражданской исследовательской инфраструктуре и на объекты, а также к логистическим услугам, таким как транспортировка и хранение оборудования и материала с целью проведения научной деятельности в установленных географических районах в рамках настоящего Соглашения.

Статья 6

Доступ в районы проведения исследований

1. Стороны содействуют доступу Участников в наземные, прибрежные, атмосферные и морские пространства в установленных географических районах в соответствии с международным правом с целью осуществления научной деятельности.
2. Стороны содействуют рассмотрению заявок на проведение морских научных исследований в рамках настоящего Соглашения в соответствии с Конвенцией Организации Объединенных Наций по морскому праву 1982 года.
3. Стороны также содействуют совместной научной деятельности, требующей воздушного сбора научных данных в установленных географических районах и являющейся предметом специальных соглашений или договоренностей, заключенных между Сторонами или Участниками в связи с этой деятельностью.

Статья 7

Доступ к данным

1. Стороны содействуют получению доступа к научной информации, связанной с научной деятельностью в рамках настоящего Соглашения.
2. Стороны оказывают поддержку полному и открытому доступу к научным метаданным и поощряют открытый доступ к научным данным и результатам обработки данных, а также к опубликованным результатам с минимальными

сроками ожидания, предпочтительно онлайн и бесплатно, или по цене, не превышающей затраты на копирование и доставку.

3. Стороны содействуют распространению и обмену научных данных и метаданных в тех случаях, когда это целесообразно и практически осуществимо, в соответствии с общепринятыми стандартами, форматами, протоколами и процедурами отчетности.

Статья 8

Образование, развитие научной карьеры и возможности для повышения квалификации

Стороны содействуют расширению возможностей для включения студентов, получающих образование различного уровня, и молодых ученых в научную деятельность, осуществляемую в рамках настоящего Соглашения, с целью подготовки будущих поколений исследователей и повышения потенциала и компетенции для улучшения знаний об Арктике.

Статья 9

Традиционные и местные знания

1. Стороны поощряют Участников использовать в тех случаях, когда это целесообразно, традиционные и местные знания при планировании и осуществлении научной деятельности в рамках настоящего Соглашения.

2. Стороны поощряют в тех случаях, когда это целесообразно, диалог между носителями традиционных и местных знаний и Участниками, осуществляющими научную деятельность в рамках настоящего Соглашения.

3. Стороны поощряют участие носителей традиционных и местных знаний в тех случаях, когда это целесообразно, в научной деятельности в рамках настоящего Соглашения.

Статья 10

Законы, подзаконные акты, процедуры, а также политика

Деятельность и обязательства по настоящему Соглашению осуществляются в соответствии с применимыми международным правом и законами, подзаконными актами, процедурами и политикой соответствующих Сторон. Для Сторон, у которых есть региональные правительства, применимые законы, подзаконные акты, процедуры и политика включают также применимые законы, подзаконные акты, процедуры и политику их региональных правительств.

Статья 11

Ресурсы

1. Если не согласовано иное, каждая из Сторон самостоятельно несет расходы, связанные с реализацией настоящего Соглашения.

2. Реализация настоящего Соглашения зависит от наличия соответствующих ресурсов.

Статья 12

Обзор выполнения настоящего Соглашения

1. Стороны встречаются не позднее чем через год после вступления в силу настоящего Соглашения по созыву Депозитария, а в дальнейшем - по решению Сторон. Стороны могут решить созывать такие встречи в привязке к заседаниям Арктического совета, в том числе приглашая Постоянных участников и Наблюдателей Арктического совета для наблюдения и предоставления информации. Совместная научная деятельность со сторонами, которые не являются Сторонами настоящего Соглашения, относящаяся к арктической науке, может приниматься во внимание при обзоре выполнения настоящего Соглашения.

2. На этих встречах Стороны рассматривают выполнение настоящего Соглашения, включая достигнутые успехи и препятствия для его выполнения, а также способы повышения результативности и улучшения выполнения настоящего Соглашения.

Статья 13

Компетентные органы и контакты

Каждая из Сторон назначает компетентный национальный орган или органы в качестве ответственного координатора для целей настоящего Соглашения. Названия и контактная информация назначенных координаторов указаны в Приложении № 2 к настоящему Соглашению. Каждая Сторона в кратчайшие сроки информирует другие Стороны о любых изменениях в этих назначениях в письменном виде через свой компетентный национальный орган или органы и по дипломатическим каналам.

Статья 14

Приложения

1. Приложение № 1, упомянутое в Статье 1, составляет неотъемлемую часть настоящего Соглашения и имеет обязательную юридическую силу.

2. Приложение № 2, упомянутое в Статье 13, не является неотъемлемой частью настоящего Соглашения и не имеет обязательной юридической силы.

3. На встречах Сторон, упомянутых в Статье 12, Стороны могут принимать дополнительные Приложения, не имеющие обязательной юридической силы. Приложение № 2, упомянутое в Статье 13, может быть изменено в соответствии с данной статьей.

Статья 15

Урегулирование споров

Стороны разрешают любые споры относительно применения или толкования настоящего Соглашения путем прямых переговоров.

Статья 16

Отношения с другими международными соглашениями

Ничто в настоящем Соглашении не истолковывается как изменяющее права или обязательства любой Стороны по другим соответствующим международным соглашениям или международному праву.

Статья 17

Сотрудничество со сторонами, не являющимися Сторонами настоящего Соглашения

1. Стороны могут продолжать укреплять и развивать сотрудничество со сторонами, не являющимися Сторонами настоящего Соглашения, в области арктической науки.

2. Стороны могут по своему усмотрению осуществлять со сторонами, не являющимися Сторонами настоящего Соглашения, сотрудничество, указанное в настоящем Соглашении, и принимать меры, согласующиеся с мерами, указанными в настоящем Соглашении, в рамках такого сотрудничества со сторонами, не являющимися Сторонами настоящего Соглашения.

3. Ничто в настоящем Соглашении не затрагивает прав и обязательств Сторон по соглашениям со сторонами, не являющимися Сторонами настоящего Соглашения, и не препятствует сотрудничеству между Сторонами и сторонами, не являющимися Сторонами настоящего Соглашения.

Статья 18

Поправки к настоящему Соглашению

1. В настоящее Соглашение могут вноситься поправки по письменному согласию всех Сторон.

2. Поправка вступает в силу через 30 дней после даты получения Депозитарием по дипломатическим каналам последнего письменного уведомления о том, что все Стороны завершили внутригосударственные процедуры, необходимые для ее вступления в силу.

Статья 19

Временное применение, вступление в силу, а также выход из Соглашения

1. Настоящее Соглашение может временно применяться любой из подписавших Сторон, предоставившей Депозитарию письменное заявление о таком своем намерении. Любая такая подписавшая Сторона временно применяет настоящее Соглашение по отношению к любой другой подписавшей Стороне, предоставившей такое же уведомление, с даты своего заявления или с любой другой даты, указанной в ее заявлении.

2. Настоящее Соглашение заключается на 5 лет и вступает в силу через 30 дней после даты получения Депозитарием по дипломатическим каналам последнего письменного уведомления о выполнении Сторонами внутригосударственных процедур, необходимых для его вступления в силу.

3. Действие настоящего Соглашения автоматически продлевается на очередные 5-летние периоды, если только одна из Сторон письменно не уведомит остальные Стороны о своем намерении выйти из настоящего Соглашения не менее чем за шесть месяцев до истечения первоначального 5-летнего периода или любого последующего 5-летнего периода, и в этом случае настоящее Соглашение остается в силе только для остальных Сторон.

4. Любая Сторона может в любое время выйти из настоящего Соглашения, направив Депозитарию по дипломатическим каналам письменное уведомление об этом не менее чем за 6 месяцев, указав дату своего выхода. Выход из настоящего Соглашения не влияет на его применение в отношениях между остальными Сторонами.

5. Выход из настоящего Соглашения любой Стороны не затрагивает обязательств этой Стороны, относящихся к деятельности, осуществляемой в рамках настоящего Соглашения, если эти обязательства возникли до даты выхода.

Статья 20
Депозитарий

Правительство Королевства Дания является Депозитарием настоящего Соглашения.

СОВЕРШЕНО в г. Фэрбанкс (Аляска, Соединенные Штаты Америки) 11 мая 2017 года. Настоящее Соглашение составлено в одном экземпляре на английском, французском и русском языках, причем все тексты имеют одинаковую силу. Рабочим языком настоящего Соглашения является английский язык, на котором велись переговоры по настоящему Соглашению. Депозитарий направляет Сторонам заверенные копии настоящего Соглашения.

ПРИЛОЖЕНИЕ № 1 – Установленные географические районы

Установленные географические районы для целей настоящего Соглашения описаны каждой из Сторон ниже и включают районы, над которыми государство, Правительство которого является одной из Сторон настоящего Соглашения, осуществляет суверенитет, суверенные права или юрисдикцию, включая его сухопутную территорию и внутренние воды в данных районах и прилегающее территориальное море, исключительную экономическую зону, а также континентальный шельф, в соответствии с международным правом. Установленные географические районы также включают районы за пределами национальной юрисдикции в открытом море к северу от 62° с.ш.

Стороны соглашаются, что установленные географические районы определены исключительно для целей настоящего Соглашения. Ничто в настоящем Соглашении не влияет на существование или определение каких-либо морских прав или делимитацию любых границ между государствами в соответствии с международным правом.

КАНАДА – территории Юкон, Северо-Западные территории и Нунавут и прилегающие морские районы Канады.

КОРОЛЕВСТВО ДАНИЯ – территория Королевства Дания, включая Гренландию и Фарерские острова, а также морские районы выше южной границы исключительной экономической зоны Гренландии и рыболовной зоны Фарерских островов.

ФИНЛЯНДИЯ – территория Финляндии и ее морские районы.

ИСЛАНДИЯ – территория Исландии и ее морские районы.

НОРВЕГИЯ – морские районы к северу от 62° с.ш., а также сухопутные территории к северу от Северного полярного круга (66,6° с.ш.)

РОССИЙСКАЯ ФЕДЕРАЦИЯ –

1. Территория Мурманской области;
2. Территория Ненецкого автономного округа;
3. Территория Чукотского автономного округа;
4. Территория Ямало-Ненецкого автономного округа;
5. Территория муниципального образования городского округа «Воркута» (Республика Коми);
6. Территории Аллаиховского улуса (района), Анабарского национального (Долгано-Эвенкийского) улуса (района), Булунского улуса (района), Нижнеколымского района, Усть-Янского улуса (района) (Республика Саха (Якутия));
7. Территории городского округа города Норильска, Таймырского Долгано-Ненецкого муниципального района, Туруханского района (Красноярский край);
8. Территории муниципальных образований «Город Архангельск», «Мезенский муниципальный район», «Новая Земля», «Город Новодвинск», «Онежский муниципальный район», «Приморский муниципальный район», «Северодвинск» (Архангельская область);
9. Земли и острова, расположенные в Северном Ледовитом океане, указанные в Постановлении Президиума Центрального Исполнительного Комитета СССР от 15 апреля 1926 г. «Об объявлении территорией Союза ССР земель и островов, расположенных в Северном Ледовитом океане» и других актах СССР;

а также прилегающие морские районы.

Примечание. Территории муниципальных образований, названных в пунктах 5 - 8, указаны в границах по состоянию на 1 апреля 2014 г.

ШВЕЦИЯ - территория Швеции и ее морские районы к северу от 60,5° с.ш.

СОЕДИНЕННЫЕ ШТАТЫ АМЕРИКИ – вся территория Соединенных Штатов к северу от Северного полярного круга и к северу и к западу от границы, образуемой реками Поркьюпайн, Юкон и Кускокуим; цепь Алеутских островов; а также прилегающие морские районы Северного Ледовитого океана и моря Бофорта, Берингова и Чукотского морей.

ПРИЛОЖЕНИЕ № 2 – Компетентные органы и контакты

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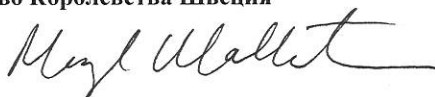
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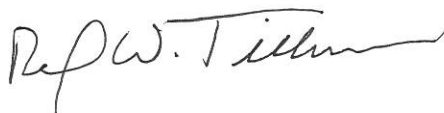
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POLICY FORUM

SCIENCE DIPLOMACY

The Arctic Science Agreement propels science diplomacy

Amid geopolitical tension, science aligns common interests

By Paul Arthur Berkman,¹ Lars Kullerud,²
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Oran R. Young⁵

Global geopolitics are fueling the renewal of East-West tensions, with deteriorating U.S.-Russia relations in the wake of conflicts in Ukraine and Syria, issues involving cyber-security, and broader concerns about expanding militarization. Against this backdrop, the Agreement on Enhancing International Arctic Scientific Cooperation, signed on 11 May 2017 by foreign ministers of the eight Arctic States, including the U.S. and Russia, as well as Greenland and the Faroe Islands, is a milestone. This “Arctic Science Agreement” is a strong signal reaffirming the global relevance of science as a tool of diplomacy, reflecting a common interest to promote scientific cooperation even when diplomatic channels among nations are unstable (1–3). It provides a framework for enhancing the efforts of scientists working on cutting-edge issues, but translating the general language of the agreement into enhanced action requires further attention, collaboration, and effort among diplomats and scientists to ensure its successful implementation. With the International Arctic Science Committee (IASC) convening the International Science Initiative in the Russian Arctic (ISIRA) at the Russian Academy of Sciences in Moscow next week, we highlight steps to advance science, its contributions to informed decision-making, and its role in maintaining the Arctic as a zone of peace and cooperation.

STRENGTHENING ARCTIC SCIENCE

Negotiated under the auspices of the Arctic Council through a process co-led by Russia and the United States, the agreement recognizes first “the importance of maintaining peace, stability, and constructive cooperation in the Arctic.” This legally binding agreement aims to enhance scientific cooperation by “removing obstacles” (4) and by providing a basic road map and commitment to facilitate consistent access

for marine, terrestrial, and atmospheric research on a pan-Arctic scale.

The agreement aims to improve use of existing infrastructures that were previously unavailable; enable new movement of researchers, students, equipment, and materials; promote sharing of data and metadata in ways that were not previously possible; and encourage holders of traditional and local knowledge to participate in scientific activities across territories (see the map). The science community, working through the organizations representing it in the Arctic Council, including IASC, the University of the Arctic (UArctic), and the International Arctic Social Sciences Association (IASSA), as well as through separate meetings of science ministers, already has identified substantive priorities for the next phase of Arctic research (5).

Concrete examples of improvements needed to achieve success with the agreement would be to (i) establish procedures to expedite the granting of visas and permits for accessing field sites; (ii) digitize historic and other data from hard-copy formats and create shared platforms for searching data located in a variety of repositories, including coordination with the Arctic Data Committee and Sustaining Arctic Observing Networks; (iii) use organizations mentioned in the agreement to set up and monitor research partnerships across borders; (iv) increase support for field and summer schools and related means for training the next generation of Arctic scientists; (v) promote well-formulated comparative studies designed to examine common issues at multiple locations across the Arctic; (vi) maximize the use of icebreakers and other forms of infrastructure for scientific purposes; and (vii) create innovative venues that integrate natural and social sciences along with indigenous knowledge to address common concerns.

Some of these measures will require action on the part of officials in foreign ministries; others can be handled best through organizations representing the science community. Each of the signatories can and

should designate an official point of contact with a mandate to assist with the implementation of the agreement, monitor progress regarding efforts to remove obstacles, and make recommendations for the adoption of additional measures as needed.

Although the Arctic States are the signatories, the agreement emphasizes that these States “may continue to enhance and facilitate cooperation with non-Parties with regard to Arctic science.” This holistic (international, interdisciplinary, and inclusive) science cooperation broadens the scope of the agreement beyond its defined area (see the map).

PROPELLING SCIENCE DIPLOMACY

The Arctic Science Agreement is the third legally binding instrument to emerge from the efforts of the Arctic States, following the search-and-rescue (6) and marine oil pollution preparedness and response (7) agreements. All have benefited from Russian and U.S. leadership of the negotiations (along

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with Norway regarding marine oil pollution), but only the Arctic Science Agreement enhances the logistic capacity for cross-cutting knowledge discovery and application.

Historically, polar scientists have played important roles in building East-West cooperation as demonstrated at the height of the Cold War. The 1957–1958 International Geophysical Year stimulated cooperation leading to the 1959 Antarctic Treaty, with its membership based on “substantial research” to manage nearly 7% of Earth’s area forever for “peaceful purposes only,” becoming the first nuclear arms control agreement.

The Antarctic Treaty laid the groundwork for the 1967 treaty promoting the peaceful use of outer space. Derived from common interests of the United States and Russia, among other nations, these two international spaces (8) were used peacefully throughout the Cold War and remain insulated from global geopolitics as a result of science diplomacy [see the supplementary materials (SM)].

Drawing lessons from these regions and facing “burning security issues” involving nuclear weapons in the Arctic, Soviet President Mikhail Gorbachev observed in his 1987 Murmansk speech (9) that “scientific exploration of the Arctic is of immense importance for the whole of mankind.” This speech triggered a stream of cooperative developments with science in the lead.

Recognizing the value of Antarctic Treaty linkages with the Scientific Committee on Antarctic Research, national academies of science moved quickly to establish IASC in 1990. Science-based public agencies took the lead in the 1991 formation of the Arctic Environmental Protection Strategy, which then became the first signed record of international governance among the eight Arctic States (see SM). This catalyzed the 1996 establishment of the Arctic Council (10) as a “high level forum” of the eight Arctic States and six indigenous peoples organizations with observers and six technical and science-based working groups, involving key Arctic stakeholders (see the map and SM). In parallel, the education community created the Circumpolar Universities Association in 1989. With the endorsement of the Arctic Council, the UArctic was born in 1998 (see the map).

Within and between nations, research and education together promote understanding of and resilience to external stresses and disturbances (11), applying methodologies of the natural and social sciences as well as indigenous knowledge to detect and interpret changes over time and space. For example, diminishing sea ice and increasing ship traffic in the Arctic Ocean highlight biophysical and socioeconomic changes that directly affect the security of Arctic residents facing risks today and

Supplies are retrieved by crew from the U.S. Coast Guard Cutter Healy while in the Chukchi Sea, 12 July 2011. The Arctic Science Agreement can improve researchers’ access to marine and terrestrial regions.

across generations (12). Moreover, external stressors, which are planetary in scale, raise additional questions (see SM) about the future of the Arctic in our globally interconnected civilization (5).

Minimizing the risks of policy shifts, the agreement enhances the stability of research platforms across nations to interpret and disseminate previously inaccessible data, as well as generate continuous data to interpret marine, terrestrial, atmospheric, and human-centered changes on a pan-Arctic scale (see the map). Moreover, scientific investigation is being enhanced to facilitate research on land, extending from marine scientific research under the law of the sea, to which all Arctic States “remain committed” (13).

Resulting questions, information, and observations can be organized into data; analyzed to expose patterns, trends, and other insights; and become evidence that can underlie decisions (see SM) about built infrastructure and governance mechanisms. As an apex goal, informed decisions benefit from consideration of available options (without advocacy), which can be used or ignored by the decision-makers. In the

Arctic, this science-diplomacy process (see SM) is being enhanced by the agreement to address the “common Arctic issues,” in particular, “sustainable development and environmental protection,” established by the Arctic Council (10), balancing economic prosperity, environmental protection, and societal well-being. In this context, the Arctic Science Agreement emphasizes “the importance of using the best available knowledge for decision-making.”

LOOKING FORWARD

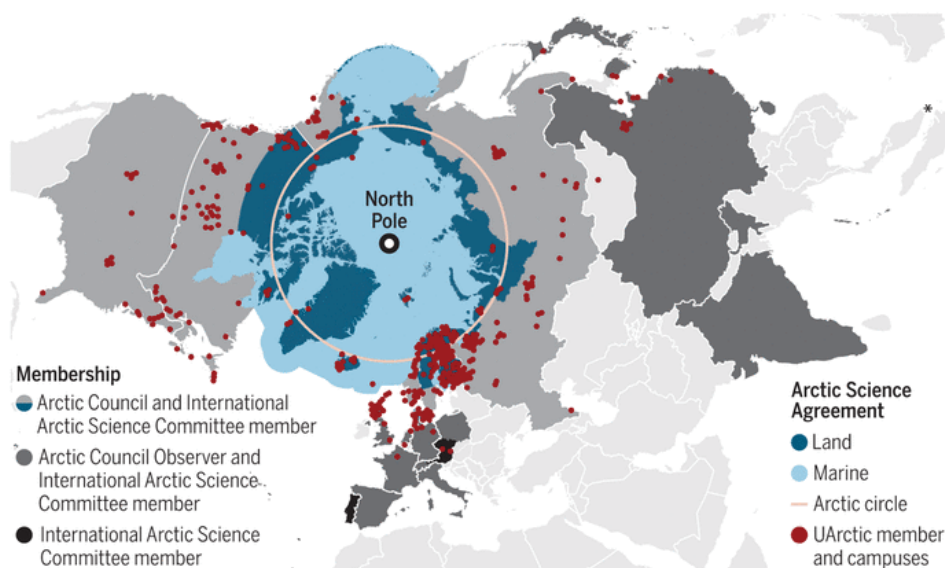
Science, whether for basic or applied objectives, can promote cooperation and prevent conflict by engaging diverse stakeholders in dialogue. With stakeholder inclusion (see the map and SM) enhanced by the Arctic

without planning across generations. Warming of the Arctic (16), thermohaline changes in the ocean from melting ice sheets, decreasing albedo as sea ice disappears, and increasing methane emissions from thawing permafrost all have climate footprints with societal, environmental, and economic implications on a planetary scale (16).

Effective implementation of the agreement will require its associated networks (including IASC, UArctic, IASSA, and partner organizations) to help strengthen research and education across borders (see the map). Considering the sovereign rights of Russia extending over nearly half the Arctic, research partnerships with Russian scientists are critical for Arctic science and diplomatic progress.

Land and ocean areas covered by the Arctic Science Agreement

The map draws on information from the following sources: Extent of the Identified Geographic Area in Annex 1 to the Arctic Science Agreement, U.S. Department of State (2017); H. Ahlenius/Nordpil; IASC; UArctic; thematicmapping.org. The map is a stereoscopic equal distance projection (north-south). See Supplementary Materials for high-resolution map with bathymetry and topography.



*Singapore is an Arctic Council Observer State.

Science Agreement, holistic evidence and options become increasingly feasible for informed decision-making (see SM) to achieve Arctic sustainability across the 21st century, recognizing that children born today will be alive in the 22nd century. As the upcoming ISIRA Workshop demonstrates, the agreement is already generating opportunities to enhance pan-Arctic research that will become increasingly vital, complementing implementation of the 17 Sustainable Development Goals on a planetary scale.

Discussions foreseeing \$1 trillion USD of investment in the Arctic over the next few decades (14) reveal global commercial opportunities extending across the 21st century (15), but with local risks that will swell

Researchers can and should invoke the Arctic Science Agreement as a research-facilitation tool to build partnerships, conduct fieldwork, access data, and begin to answer previously unanswerable scientific questions, especially with pan-Arctic dimensions. The pathway for the researcher could involve the international research and education networks mentioned above to interface with the diplomats, for example, through periodic meetings jointly convened with foreign ministries.

Ultimately, the process of science diplomacy (see SM) builds common interests among allies and adversaries alike across a continuum of urgencies, spanning security to sustainability time scales with efficiencies

and synergies that transcend the geopolitics of today. These issues are being discussed among foreign ministries (18) and will be relevant to the continuing series of Arctic Science Ministerials (19). In the Arctic, as elsewhere, science diplomacy helps to balance national interests and common interests for the lasting benefit of all on Earth with hope and inspiration across generations. ■

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SUPPLEMENTARY MATERIALS

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Supplementary Materials for

The Arctic Science Agreement propels science diplomacy

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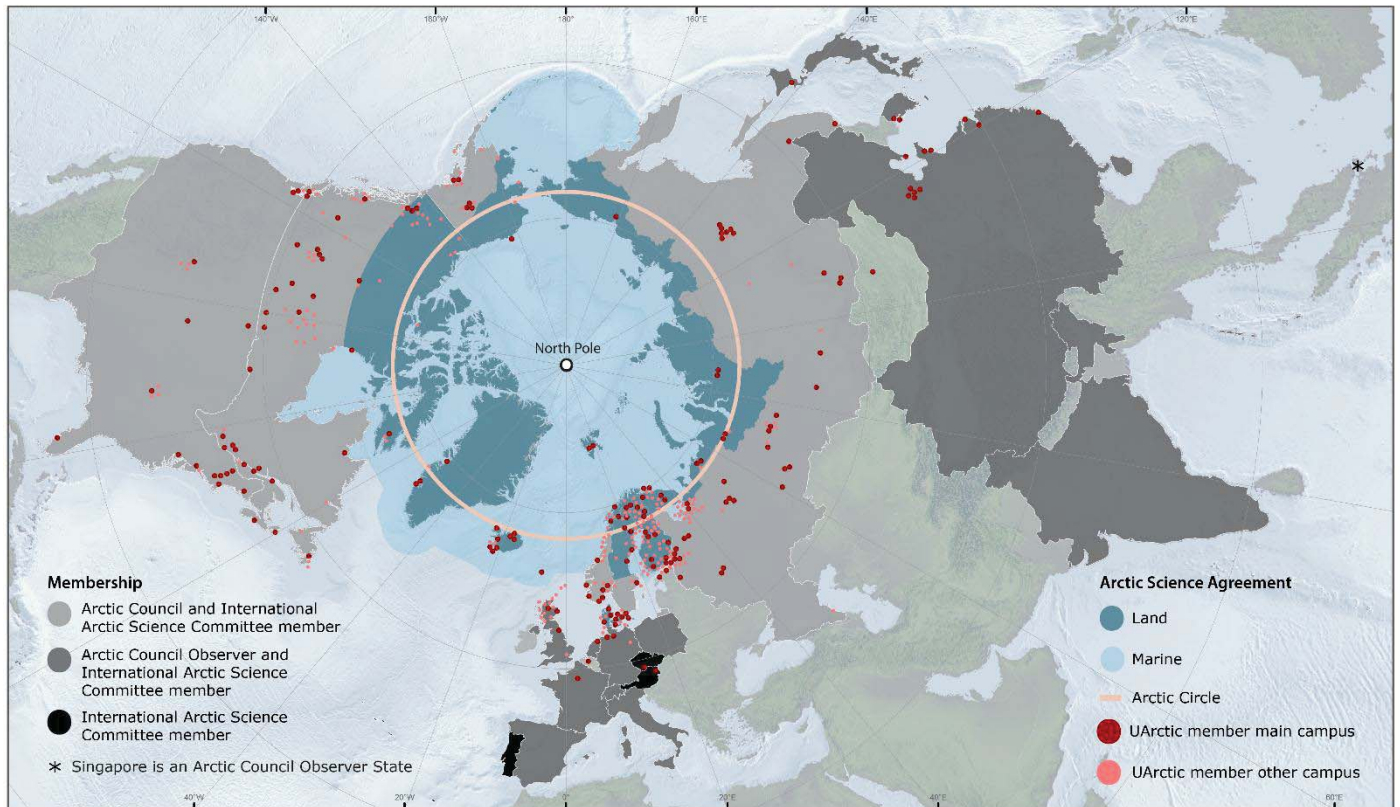
Published 3 November 2017, *Science* **358**, 596 (2017)
DOI: 10.1126/science.aag0890

This PDF file includes:

Figs. S1 and S2

Land and ocean areas covered by the Arctic Science Agreement

The Agreement on Enhancing International Arctic Scientific Cooperation, signed in Fairbanks, Alaska, on May 11, 2017 applies to “Identified Geographic Areas” among the eight Arctic States on land and in the ocean. Signatories, affiliates and organizations named in the Arctic Science Agreement are shown with bathymetry and topography included in the map.



Map by GRID-Arendal, K.L. Fjærtoft. Projection: Stereoscopic equal distance (north-south).
Sources: Extent of the Identified Geographic Area: Annex 1 to the Arctic Science Agreement and U.S. Department of State 2017; H. Ahlenius/Nordpil. IASC and UArctic; thematicmapping.org

FIGURE S1. High-resolution map with bathymetry and topography to elaborate national interests and common interests in the Arctic, accompanying “*The Arctic Science Agreement Propels Science Diplomacy*” (*Science* 358, 596, 2017). This map accurately represents the “Identified Geographic Areas” on land and in the sea, as defined in the *Agreement on Enhancing International Arctic Scientific Cooperation*, which was signed in Fairbanks, Alaska, on 11 May 2017 by foreign ministers of the eight Arctic States (Canada, Denmark with Greenland and the Faroe Islands, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States). Maritime zones defined by the 1982 *United Nations Convention on the Law of the Sea* extend from the territories of States into international spaces on the sea floor and in the superjacent waters – from national interests into common interests – especially with the Arctic High Seas fixed beyond sovereign jurisdictions surrounding the North Pole (Berkman, P.A. and Young, O.R. *Science* 324, 339, 2009). The “Arctic Science Agreement” enhances the opportunity for informed decision-making (see Figure S2) to achieve Arctic sustainability across generations, delivering lessons for our globally interconnected civilization about the application of science diplomacy as an holistic (international, interdisciplinary and inclusive) process with evidence integration to balance national interests and common interests for the lasting benefit of all on Earth.

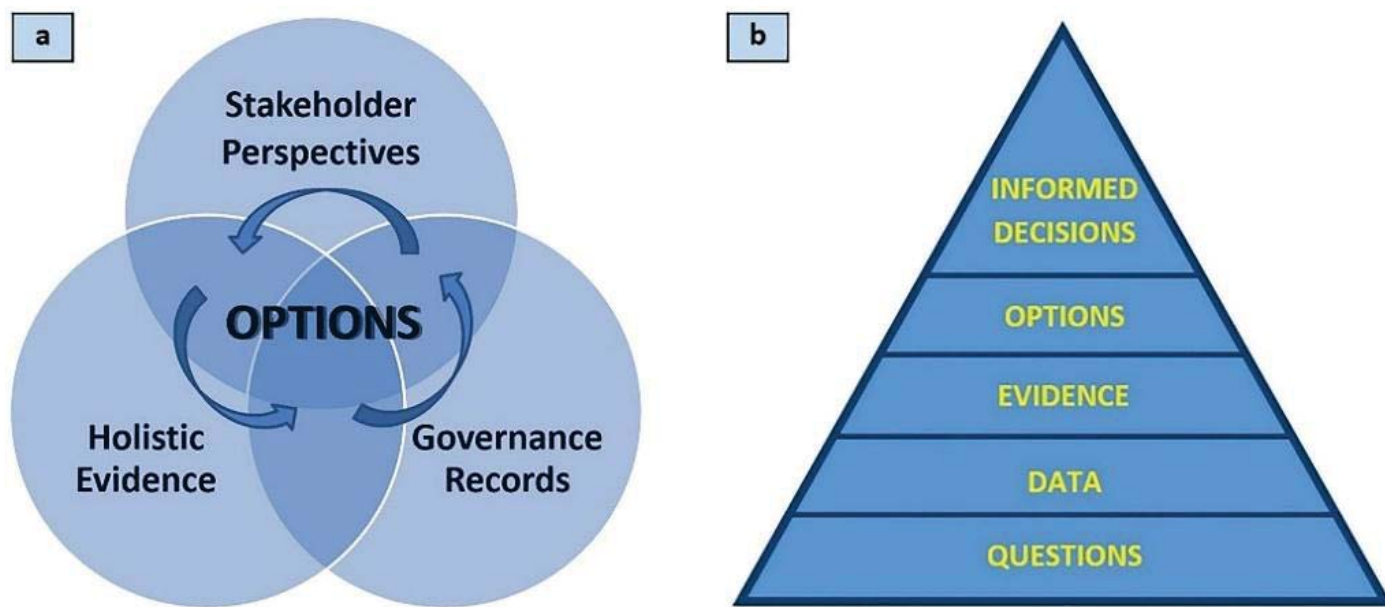


FIGURE S2. Decision-support process of science diplomacy (see Figure S1) illustrated by the *Agreement on Enhancing International Arctic Scientific Cooperation* (see Berkman, P.A., L. Kullerud, A. Pope, A.N. Vylegzhanin and O.R. Young. *Science* 358, 596, 2017). (a) Holistic methodology to address issues, impacts and resources within, across and beyond jurisdictions independent of scale (from a family to our world). At the scale of our globally interconnected civilization, analytical results from science (defined inclusively as the study of change) contribute to holistic evidence for decisions about built infrastructure and governance mechanisms that are necessary to achieve progress with all seventeen United Nations Sustainable Development Goals. Context to introduce options for decision-making is revealed by the governance records (such as the "Arctic Science Agreement"), which represent authentic policies defined by officials with relevant decision-making capacities. Holistic evidence is further informed by diverse perspectives among stakeholders or major groups (<https://sustainabledevelopment.un.org/majorgroups/about>). This decision-support process starts with (b) questions that provide the foundation to build common interests among diverse groups inclusively. With questions, information and observations can be distilled into data (as anticipated by the "Arctic Science Agreement"), applying rigorous analytical methods from the natural sciences and social sciences as well as indigenous knowledge to reveal the dimensions, patterns and trends of issues, impacts and resources that require action by decision makers. The diplomacy comes from options (without advocacy), which can be used or ignored explicitly, leading simply to informed decision-making. The integration of options underscores the science diplomacy to achieve informed decisions across generations, which is central to sustainability in the Arctic and on Earth, recognizing that children born today will be alive in the 22nd century.

SCIENCE DIPLOMACY CENTER

Nation states have sovereignty, sovereign rights and jurisdictions across nearly thirty percent of the Earth. In contrast, international spaces established from World War II beyond sovereign jurisdictions exist across nearly seventy percent on the Earth as well as in outer space. On a global scale, across one hundred percent of our home planet, the challenge is to balance national interests and common interests. Recognizing this forever challenge, the Science Diplomacy Center was launched in February 2017 at The Fletcher School of Law and Diplomacy at Tufts University.

With its three triangulated areas of focus – Education, Research and Leadership – the Science Diplomacy Center aims to:

- Educate the next generation of science diplomats;
- Facilitate research to reveal evidence and options that contribute to informed decision-making; and
- Provide leadership with science-diplomacy networks that build common interests among allies and adversaries alike across our globally-interconnected civilization

The decision-support process applied by the Science Diplomacy Center integrates holistic (international, interdisciplinary and inclusive) evidence from the natural and social sciences as well as indigenous knowledge regarding impacts, issues and resources within, across and beyond sovereign jurisdictions. This holistic integration further involves stakeholder perspectives inclusively as well as governance records that represent the operation of government institutions. Importantly, this decision-support process is designed to reveal options (without advocacy), which can be used or ignored explicitly, contributing to informed decision-making across diverse jurisdictions, ultimately by nations individually and collectively.

To help with informed decisions, involving the combination of built elements and governance mechanisms for sustainable infrastructure development, the Science Diplomacy Center operates across the ‘continuum of urgencies,’ which exists from security time scales (responding to the risks of political, economic and cultural instabilities that are immediate) to sustainability time scales (balancing economic prosperity, environmental protection and societal well-being across generations).

SUBMITTING MEETING SYNTHESSES:

As an incidental serial for rigorous meeting syntheses, the intention is to grow this serial in a manner that is both practical and helpful. The standard for the publication in *Science Diplomacy Action* is represented by Synthesis No. 1 (September 1, 2017), which emerged from the *1st International Dialogue on Science and Technology Advice in Foreign Ministries* in October 2016.

In a holistic (international, interdisciplinary and inclusive) manner – *Science Diplomacy Action* seeks syntheses to share questions, observations, information, data, evidence and options that contribute to informed decision-making about issues, impacts and resources across jurisdictions in our globally-interconnected civilization. *Science Diplomacy Action* will operate as a rigorous publication with peer review, considering the overall quality, relevance and integrity of each submission. Each accepted synthesis will be an authoritative outcome of the relevant meeting with an author point-of-contact and other meeting participants listed as co-authors with their approval.



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